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HEALTH OF THE ELDERLY IN NORTH CAROLINA: POPULATION AT RISK AND PATTERNS AND TRENDS IN MORTALITY

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ABSTRACT

As elsewhere in the nation, North Carolina is experiencing major changes in its age structure as life expectancies have increased, birth rates decreased, and population migration occurred. Between 1980 and the year 2010, the number of North Carolina residents 65 and older is expected to double while the number 85 and older is expected to nearly quadruple. As a result, the state's elderly dependency ratio is projected to increase about 42 percent—more than twice the rate of increase projected for the nation. Thus, detailed analysis and planning by the state's public and private sector leaders are immediately required.

This report examines cause-specific mortality rates for three elderly age groups by race and sex. The death rates are specific for underlying causes of death as well as leading "mentioned conditions," i.e., any condition reported on the death certificate. As for the total population, heart disease, cancer, and stroke are the leading causes of death among the elderly. These are followed by pneumonia/influenza, chronic obstructive pulmonary disease, and injury/poisoning, in declining order. Particularly large mortality excesses are observed among males, especially nonwhite males. As expected, large increases in risk at more advanced ages are observed for cardiovascular and some other diseases and for mental disorders, falls, and specific types of injuries resulting from the external causes of death. Hip fractures are especially frequent. In contrast, risk of death from lung cancer, alcohol-related conditions, and suicide declines with advancing age. However, suicide rates are high in all three elderly age groups. White males are found to contribute disproportionately to these high rates.

Between 1968-72 and 1983-87, the mortality rates for older persons dying from cardiovascular diseases and many other leading killers declined dramatically. However, it is suggested that reductions in the force of mortality may cause disease prevalence to increase. Major exceptions to recent improvements at the older ages involve increased death rates for cancer, chronic liver disease and cirrhosis, and suicide.

This report also examines the cause-specific numbers and percentages of older persons dying in noninstitutional settings and in nursing and rest homes, for the use of those involved in planning for home care and hospice services.

The findings of this report point up the need to reduce mortality among males, particularly nonwhite males. The data on injuries by external cause and by type of injury likewise mandate immediate planning for public health initiatives which focus on the causes of injuries among the elderly, particularly falls among the extreme elderly. Finally, it is noted that data related to elder use of hospital outpatient and nonhospital health services and to quality of life among the elderly are woefully lacking. These databases must be developed if we are to make health policy that meets the changing needs of our older citizens.

INTRODUCTION

Along with the "graying of America," North Carolina's population is aging—and faster than the nation's. Between 1980 and 1985, the state's increase in the population 65 and older was 17.4 percent; only eight states registered higher increases (1). By the year 2010, the percentage of the population 65 and older is projected to be more than 15 (2) compared to 11.8 in 1987 (3). Thus, it behooves public health and the state's health community at large to identify the health problems and health care needs of our older citizens.

This is the first SCHS study to focus entirely on the elderly. Resources permitting, future studies of the health status of the elderly might examine diagnostic information from hospital discharge files, health care resources and utilization data, and mortality and morbidity among the elderly poor versus nonpoor using Medicaid-eligible files to identify the poor.

POPULATION AT RISK¹

In 1987, persons aged 65 and older represented the following percentages of the population by race and sex: white males 10.1, white females 15.1, nonwhite males 7.4, and nonwhite females 10.5 (3).

While age 65 and over is the most commonly used definition for the elderly, other definitions are sometimes used. Thus, Table 1 shows the age-race-sex distribution of the population 55 and older. With advancing age, the male population declines more rapidly than the female due to higher male mortality rates at every age. The result is that female-to-male population ratios increase from 1.16 to 2.62 for whites and from 1.39 to 2.27 for nonwhites as age increases from 55-64 to 85 and older.

By race, life expectancies (remaining years of life) are higher for whites than for nonwhites up to age 74 for males and age 76 for females; thereafter, nonwhites have the higher life expectancies (4). As noted by Manton (5), one possible explanation for the nonwhite-white crossover at advanced ages may be that higher nonwhite mortality at earlier ages tends to remove more rapidly nonwhite persons with chronic morbid conditions so that nonwhite persons surviving to advanced ages are relatively healthier than whites surviving to those ages.

The North Carolina Office of State Budget and Management provides annual updates of county and state population projections. Statewide projections for major age groups are given in Table 2.

By the year 2010, North Carolina can expect major changes in its age structure. The median age is projected to increase by 10 years from 29.6 in 1980 to 39.7 in 2010. Increased life expectancy coupled with relatively low and stable fertility are the underlying factors. For the U.S. as a whole, life expectancy at birth is projected to increase by about 3 years from 1980 to 2010 as death rates drop significantly in all age-race-sex groups. North Carolina is expected to mirror this change. Of course, the number of deaths will mount as the population moves into older age groups. (2)

The state's elderly population is expected to grow faster than the remainder of the population. As shown in Table 3, the number of persons 65 and older will nearly double from about 603,000 in 1980 to a projected 1,182,000 in 2010. The population 85 and older will nearly quadruple, from 45,000 to 169,000. "This shift will mandate that greater attention be given by public sector leaders to the need for hospitals and nursing home care, retirement housing, recreation, rehabilitation and adequate in-home support services for the elderly" (2). Actually, immediate attention is mandated in order to assure healthy arrival at older adulthood.

One measure of the effect on society of the growing number of elderly is change in the dependency ratio: the ratio of persons in the dependent ages (under 18 and 65 and older) to persons in the economically productive ages of 18-64. As indicated by the ratios of Table 4, the state's youth dependency ratio is expected to decline about 30 percent between 1980 and 2010 while the ratio for elderly dependency is projected to increase about 42 percent—more than twice the rate of increase projected for the nation. Moreover, life expectancies are greater in the state than in the U.S. for all ages 75-95 (4,6). These findings portend an unsettling situation nationwide and all the more in North Carolina in terms of strain imposed upon the work force to support the various societal support systems that serve the elderly. They also suggest that public health and the state's other support systems may face sweeping changes in order to adapt. Thus, detailed analysis and planning are immediately required.

¹Much of the information in this section was abstracted from a report by the Office of State Budget and Management (2).

Through the 1990 Census, new data will become available on the elderly. Meanwhile, these findings come from the 1980 Census:

- Compared to the population as a whole, more of the state's residents 65 and older (52.5%) lived in non-metropolitan counties.
- In general, the elderly tend to be less mobile than others. However, the 1990 Census is expected to substantiate a post-1980 increase in migration of the elderly into North Carolina.
- Just under 5 percent of persons 65 and older lived in group quarters in 1980, largely homes for the aged and dependent. For those living in households, over one-quarter (158,000) lived alone.
- The marital status of persons 65 and older varies markedly according to gender. For men, over three-fourths were married at the time of the census and only 14.3 percent were widowed. For women, only one-third were married with 54.6 percent widowed. Again, these differences reflect gender differentials in life expectancy.
- For persons 65 and older who considered themselves to be in the civilian labor force in 1980, 4.4 percent were unemployed. The labor force participation rate (labor force participants as a percentage of total population) was 21.2 percent for men and 9.0 percent for women.
- One of the significant trends over the last several decades has been a decrease in the labor force participation rate of men 65 and over contrasted with an increase in the rate for elderly women.
- Approximately one-half (51.1%) of the civilian employed elderly worked part-time (less than 35 hours per week) in 1980.
- Either the householder or spouse was 65 or older in more than 400,000 or nearly 20 percent of all occupied housing units. Of these, nearly three-fourths were owners of the unit. Mobile homes accounted for 4.6 percent of the units.
- Among the housing units occupied by an elderly householder or spouse, 5 percent lacked complete kitchen facilities, 7 percent lacked

complete plumbing, 8 percent had no telephone, 41 percent lacked central heating and 51 percent lacked air conditioning. Also, 28 percent did not have a vehicle available for use and 18 percent reported a "public transportation disability."

- The median family income for families where the householder was 65 or older was \$10,145, whereas the median family income for all families was \$16,792.
- Approximately 24 percent of North Carolinians 65 and older had 1979 incomes below the poverty level. For those who lived alone or with nonrelatives, 46 percent had incomes below poverty. For all ages combined, 15 percent had incomes below the poverty level.

In addition to the above state-level information, a number of data items are available by county. With permission of the Office of State Budget and Management, selected county data on persons 65 and older are found in Appendix I. Some additional items for the elderly are available in standard census publications and on Summary Tape File 4 from the 1980 Census. Data users can contact libraries, including the State Library (919/733-3270), or the Office of State Budget and Management (919/733-7061).

MORTALITY

Although not exhaustive, mortality statistics are necessary and helpful indicators of the health status of an aging population. As stated by Branch et al. (5), the strengths of the mortality statistic are these: it is from a record-based system that benefits from nearly 100 percent compliance; a person can be counted as dead once and only once, eliminating interpretive difficulties; causes of death are based on a uniform and well-established classification system which is periodically updated; and, total and especially cause-specific mortality have undeniable associations with the health status of the population. "How people die tells us something about how they live" (5).

Cause-of-death information is usually reported in terms of one underlying cause for each death. However, in North Carolina (but not all states), up to twenty "mentioned conditions" may be coded for each death. These include the immediate cause of death, all conditions leading to the immediate cause

including the underlying cause, and other significant conditions contributing to death. Since multiple chronic disease processes and injuries are prevalent in the elderly population, these "mentioned conditions" data may be especially informative and are examined in this report.

Codes from the Ninth Revision of the *International Classification of Diseases* that are applicable to the tables of this report are given in Appendix II. Although cirrhosis of the liver is not always alcohol-related, a vast majority of cases are. Thus, all cirrhosis deaths are included in the category "alcohol-related conditions."

UNDERLYING CAUSE OF DEATH

Comparisons of Death Rates by Race, Sex and Age

In 1987, North Carolina's death rate for the population aged 65 and older was 4,955.5 deaths per 100,000 population; a record 37,464 of the state's older residents died. For total residents 65 and older and for three age groups, Table 5 shows the numbers of deaths and death rates by race and sex. The rates for males are higher than those for females; and, the rates for nonwhites are higher than those for whites except at ages 85 and older. [Note: The seeming inconsistency between higher nonwhite than white death rates at ages 75-84 but lower white than nonwhite life expectancies at these ages is due to the cumulative nature of the methods of life table construction (7).]

Although the number of deaths to older residents has risen rather dramatically (25% between 1980 and 1987), the death rate has declined 4 percent at ages 65-74 and 75-84 and 6 percent at ages 85 and older since 1980. Still, North Carolinians aged 65-74 are experiencing excess mortality relative to their U.S. counterparts as shown by the rates of Table 6. The excess primarily involves septicemia, cardiovascular diseases, motor vehicle accidents, and pneumonia/influenza. Excess rates for some causes are also seen at ages 75-84 and 85 and older, although total mortality at these ages is lower in N.C. than in the nation. The state's rates for cirrhosis and motor vehicle accidents at ages 85 and older are particularly low relative to the nation's. Figure 1 depicts the N.C./U.S. death rate ratios for the five leading causes of death among the elderly.

Tables 7-10 show the cause-specific death rates by race and sex for all ages 65 and older (Table 7) and for three age groups: 65-74 (Table 8), 75-84 (Table 9), and 85 and older (Table 10). The numbers of deaths corresponding to these death rates are given in the four tables of Appendix III. Figure 2 depicts the race-sex-specific death rates for the five leading causes of death among the elderly.

The three leading causes of death among the elderly are heart disease, cancer, and cerebrovascular disease (stroke), the last ranking above cancer at ages 85 and older. Ranked in descending order, other leading causes include pneumonia/influenza, chronic obstructive pulmonary disease, injury/poisoning, atherosclerosis, diabetes, nephritis/nephrosis, other genitourinary conditions, and septicemia. However, alcohol-related conditions rank eighth at ages 65-74 while mental disorders rank seventh at ages 85 and older.

Based on the arbitrary criterion that a race-sex-specific rate exceed the total rate by at least 25 percent, the death rates of Table 7 suggest the following major excesses in mortality for the population 65 and older, showing in parentheses each race-sex group's percentage excess over the rate for all residents:

White Males:	Suicide (138), lung cancer (94), COPD (87), alcohol-related conditions (48), chronic liver disease/cirrhosis (46), motor vehicle accidents (46), injury and poisoning (44), AMI (39), cancer of the esophagus (36), total cancer (35), leukemia (29), pneumonia and influenza (27), other ischemic heart disease (26).
Nonwhite Males:	Cancer of the esophagus (302), homicide (248), cancer of the stomach (212), other infections and parasitic diseases (129), hypertension (123), alcohol-related conditions (112), nephritis/nephrosis (107), hypertensive heart disease (103), cancer of the prostate (97), lung cancer (94), motor vehicle accidents (88), nutritional deficiencies (83), septicemia (81), total cancer (76), other genitourinary diseases (71), injury and poisoning (69), anemias (61), cancer of the pancreas (54), diabetes (41), stroke (26).

Nonwhite Females: Hypertension (123), cancer of the cervix uteri (101), hypertensive heart disease (94), diabetes (88), nephritis/nephrosis (69), septicemia (50), nutritional deficiencies (31).

The only notable excesses among white females were the death rates for mental disorders (10.5% above the state rate) and arthritis (19.6% above the state rate).

A comparison of the cause-specific death rates across age groups (Tables 8-10) reveals large increases in risk at more advanced ages for the cardiovascular diseases, especially stroke and atherosclerosis; cancer of the prostate; septicemia; nutritional deficiencies; anemias; mental disorders; pneumonia and influenza; ulcer of stomach and duodenum; nephritis and nephrosis; other genitourinary diseases; and falls. By comparison, advancing age is associated with only modest increases in risk of death from arthritis, cancer (except prostatic), COPD, diabetes, and infectious and parasitic diseases (except septicemia). Risk of death from lung cancer, alcohol-related conditions, and suicide is seen to decline with advancing age. The statewide percentage changes across age groups are given in Table 11. The increases are generally lower than those computed for the U.S. (using Table 6 rates) except in the case of homicide. It is also found that the state's *decrease* of 30 percent in suicide from ages 65-74 to ages 85 and older compares to a small *increase* of 6 percent in the U.S. In both the state and the nation (8), the suicide rate is higher for persons in the three age groups 65 and older than for all age groups below 65, particularly at ages 75-84. The 1983-87 suicide rate for N.C. white males aged 75-84 was alarmingly high at 60.2 deaths per 100,000 population. In fact, suicide ranked above motor vehicle accidents as a cause of death for white males aged 65-74 and 75-84. Thus, white males contribute disproportionately to the high overall suicide rates observed at older ages.

Figure 3 displays the age-specific death rates for leading causes among the elderly, and Figure 4 displays the age-specific death rates for those causes for which the death rate was more than 1,000 percent higher at ages 85 and older than at ages 65-74. Among these latter causes of death are falls, which are particularly prevalent among the elderly. During 1987, nearly three-quarters of all fall deaths occurred among residents 65 and older; nearly one-third occurred among those 85 and older. At ages 75

and above, the death rate for falls is particularly high among whites with older nonwhite females being at relatively low risk of death attributable to a fall.

Percentage Changes in Death Rates Between 1968-72 and 1983-87

Declines in cardiovascular disease mortality have been highly touted. What about changes in mortality from other causes? By age group, the percentage changes between 1968-72 and 1983-87 in the death rates for selected leading causes are given in Tables 12-15. The selected causes are those for which the Eighth and Ninth Revisions of the *International Classification of Diseases* are similar, i.e., comparability ratios computed by the National Center for Health Statistics were near 1.0 (9).

While the death rate for persons 65 and older (Table 12) declined 15% between 1968-72 and 1983-87, the number of those elderly deaths increased 46%. This reflects the population's changing age structure.

Among persons 65 and older most race-sex groups experienced notable improvements between 1968-72 and 1983-87. Exceptions are increased death rates for cancer, chronic liver disease and cirrhosis, and suicide. Particularly notable are increases in the suicide rate for white females, up 91%, the cancer and suicide rates for nonwhite males, each up 55%, and the chronic liver disease and cirrhosis rate for nonwhite females, up 52%. Also noted in Table 12 are the greater decreases in cardiovascular mortality among white males than among others.

Examination of the age-specific changes of Tables 13-15 reveals that mortality improvements generally were greater at ages 65-74 and 75-84 than at 85 and older. Several death rate increases are particularly notable:

- | | |
|-------------------|---|
| White Females: | Suicide at ages 65-74, up 81%, and at ages 75-84, up 118%. |
| Nonwhite Males: | Chronic liver disease and cirrhosis at ages 65-74, up 70%; cancer at ages 75-84, up 60%, and at ages 85 and older, up 114%. |
| Nonwhite Females: | Chronic liver disease and cirrhosis at ages 65-74, up 51%, cancer at ages 85 and older, up 67%. |

Other large percentage increases in death rates—for example, those for homicide among white and nonwhite males—were found to involve small numerators in both 1968-72 and 1983-87. Notice also that, due to base rates of zero during 1968-72, a number of percentage increases could not be calculated. Tables 12-15 show the symbol for “greater than” (>) in these cases. The numbers and rates for the 1968-72 period are found in Appendix IV.

Figure 5 depicts the 1968-72 and 1983-87 death rates for selected leading causes among the population 65 and older. The downturns observed here are encouraging. However, as noted by Manton (4), reductions in the force of mortality may cause disease prevalence to increase. For example, as stroke and other conditions associated with diabetes decrease in mortality risk, the population prevalence of diabetes may increase.

There is also the matter of “competing risks” at the older ages. Certainly, at least some of the increase in cancer mortality has been the result of reductions in death from the cardiovascular causes.

Finally, persons concerned with the health of the elderly at the county level will want to examine the total and race-specific death rates depicted in the maps of Figure 6. For each map, a clustering routine from the Statistical Analysis System (SAS) was used to group counties whose death rates were most like each other. Particularly notable are the higher eastern than western rates among whites.

Place of Death

The tables of Appendices V and VI are provided at the suggestion of Dr. Bob Konrad, Research Associate of the Health Services Research Center, Chapel Hill. After reviewing this report, Dr. Konrad noted that the cause-specific numbers and percentages of older residents dying in noninstitutional settings and in nursing and rest homes would be helpful to persons involved in planning for home care and hospice services. We are pleased to add these data.

The tables of Appendix V show the 1983-87 data for decedents 65 and older dying at home or in other noninstitutional settings, by race-sex and underlying cause of death. The first table shows numbers while the second shows percentage distributions by cause. Here it is seen that heart disease, cancer, and stroke accounted for 82 percent of the noninstitutional deaths. The third table shows the percentages of all

cause-race-sex groups dying in noninstitutional settings. The percentages are usually higher for nonwhites than for whites. However, for nearly all cancer sites, the white percentages are higher.

The corresponding data for older persons dying in nursing and rest homes are found in Appendix VI. The second table reveals that heart disease, stroke, and cancer accounted for 70 percent of the total. The third table of Appendix VI shows the percentages of the cause-race-sex groups dying in nursing and rest homes. The dominant pattern is one of much higher percentages among white females than others. The sex differentials observed here undoubtedly reflect to some extent differences in life expectancy; females surviving to older ages are more often left without a care-giver in the home.

Persons involved in planning for home health and hospice services should find it useful to compare the percentages of the third tables of Appendices V and VI. While more white females died in nursing and rest homes than in noninstitutional settings, the opposite is true for other race-sex groups. In total, noninstitutional settings accounted for 21 percent more deaths among the elderly than did nursing and rest homes during 1983-87. However, deaths from stroke, atherosclerosis, septicemia, nutritional deficiencies, mental disorders, pneumonia/influenza, and genitourinary conditions were far more frequent in nursing and rest homes than in noninstitutional settings.

MENTIONED CONDITIONS: NATURAL CAUSES

Because several chronic diseases are often reported on the death certificates of older persons, the mentioned conditions data seem important to chronic disease surveillance among the elderly.

In this report, we use selected conditions which are reported on the death certificate much more frequently than they are considered the underlying cause of death, based on experience at the state and national (10) levels. For details concerning multiple-conditions coding, see an earlier SCHS study (11). One major limitation of these data is that the degree of completeness of reporting is unknown.

Major cardiovascular diseases, cancer, and external causes of death are usually selected as underlying causes (10). In contrast, some reported conditions are considered the underlying cause much less often.

For leading categories of these latter conditions, Table 16 shows the relationship between reported conditions and underlying causes in terms of ratios specific for age groups 65 and older. In each age group, atherosclerosis, hypertension, and anemias are found to be reported 10 to 30 times as often as they are considered the underlying cause of death. Other conditions listed in Table 16 are reported 2 to 21 times as often as they are considered the underlying cause. The reporting of arthritis for decedents 85 and older is particularly prevalent, and reported nutritional deficiencies are found to be highly prevalent among decedents aged 65-74.

For race-sex and age groups, the numbers of selected mentioned conditions and the corresponding death rates are given in Tables 17-20. Figure 7 depicts the race-sex-specific death rates for the five leading mentioned conditions among decedents 65 and older. Reported atherosclerosis and pneumonia/influenza are shown to be more prevalent among men than women decedents while hypertension, diabetes, and nephritis/nephrosis are more prevalent among nonwhite than white decedents.

For the entire population 65 and older (Table 17), the following excesses are particularly notable, showing in parentheses the race-sex group's percentage excess over the death rate for all residents:

White Males: Pneumonia and influenza (38).

Nonwhite Males: Tuberculosis (329), nutritional deficiencies (96), nephritis and nephrosis (94), anemias (88), hypertension (79), septicemia (72), asthma (34), pneumonia and influenza (31), hyperplasia of prostate (28).

Nonwhite Females: Hypertension (70), diabetes (52), nephritis and nephrosis (42), anemias (36), asthma (35), tuberculosis (33), septicemia (30).

The only white female rate to exceed the statewide rate was that for arthritis with an excess of 13.5 percent.

Now comparing the mentioned conditions rates across age groups (Tables 18-20), large increases in risk at more advanced ages are observed. Between the ages of 65-74 and 85 and older, the percentage increases in risk ranged from 87 for asthma to 1,247

for hyperplasia of the prostate. Figure 8 displays the age-specific death rates for leading mentioned conditions while Figure 9 displays the age-specific death rates for those conditions for which the death rate was more than 600 percent higher at ages 85 and older than at ages 65-74.

MENTIONED CONDITIONS: NATURE OF INJURY

Mortality statistics that use only the underlying cause of death show the circumstances of the accident or violence (the "external" cause) that produced fatal injuries but not the nature of the injuries. Thus, information about the nature of the injuries, e.g., fractures, burns, and wounds, is not available from underlying cause-of-death statistics.

Mentioned-condition or multiple-cause statistics provide information on both the underlying cause of death and the nature of the injuries sustained. For example, motor vehicle accident as the underlying cause may have involved a skull fracture that resulted in death, or heart disease as the underlying cause may have resulted in death from complications related to heart surgery. Each death may, of course, be associated with multiple types of injuries.

The death rate for injuries is higher among older than among younger people. For North Carolinians 65 and older, injuries/poisonings were the sixth leading cause of death during 1983-87 (Table 7), accounting for one of every thirty-eight deaths to older residents. Thus, we have computed the age-race-sex-specific death rates for selected types of mentioned injuries (Tables 21-24), using leading categories from a list developed by the Injury Control Branch of the Division of Health Services. Small numbers of deaths preclude the calculation of rates for some other categories of injuries.

For all persons 65 and older, Figure 10 depicts the race-sex-specific death rates for the five leading types of mentioned injuries. The male rates are found to be much higher than those for females except that white females have the highest rate for hip fractures, possibly due to a greater prevalence of osteoporosis (12).

For the total population 65 and older (Table 21), the following injury excesses are particularly notable, showing in parentheses the race-sex group's percentage excess over the death rate for all residents:

White Males: Open wound of head, neck, trunk (133), skull fractures (87), internal injury of chest, abdomen, pelvis (72), intracranial injury except skull fracture (58), complications of surgical and medical care n.e.c. (38), certain traumatic complications and unspecified injuries (36).

White Females: Upper limb fractures (36).

Nonwhite Males: Burns (266), toxic effects of substances chiefly nonmedical as to source (226), certain traumatic complications and unspecified injuries (78), effects of foreign body entering through orifice (67), intracranial injury except skull fracture (44) internal injury of chest, abdomen, pelvis (39), open wound of head, neck, trunk (39).

Nonwhite Females: Burns (47).

Comparing the death rates for mentioned injuries across age groups (Tables 22-24), large increases in risk at advanced ages are observed. Figure 11 displays the age-specific death rates for those mentioned injuries for which the death rate was 610 to 2,692 percent higher at ages 85 and older than at ages 65-74.

Of all injuries, the one resulting in the largest number of hospital injuries is fracture of the hip, mainly as a result of accidental falls (13). As seen, the age-associated increase in injury deaths is especially great for hip fractures; the rate at ages 85 and older is 2,692 percent higher than at ages 65-74.

Finally, some of the categories used in Tables 21-24 are extremely broad and therefore less meaningful than desired. The following list provides information about the frequency of mentioned injuries in several of the broader categories:

- **Intracranial Injury except Skull Fracture:** Only 1.3% were concussions; the remainder were cerebral laceration/contusion, intracranial hemorrhage, and other or unspecified injuries (e.g., brain or head injury not otherwise specified).

- **Internal Injury of Chest, Abdomen, and Pelvis:** Nearly three-quarters were injuries to intrathoracic organs; about 20% were other, unspecified, or ill-defined injuries (e.g., internal injury not otherwise specified).
- **Open Wound of Head, Neck, and Trunk:** About half were wounds of the head, nearly one-quarter were wounds of the trunk, and about 20% were wounds of other and unspecified sites (e.g., breast, abdominal wall, unspecified sites except limbs).
- **Effects of Foreign Body Entering through Orifice:** Nearly 94% were foreign body on external eye or in ear, nose, pharynx or larynx; nearly 6% were foreign body in trachea, bronchus, or lung.
- **Burns:** About 60% were unspecified burns; 9% were burns of limbs; most of the remainder were burns classified according to the extent of body surface involved.
- **Certain Traumatic Complications and Unspecified Injuries:** About 43% were certain early complications of trauma; the remainder were other and unspecified injuries.
- **Poisoning by Drugs, Medicinal, and Biological Substances:** All were by drugs and medicinal substances.
- **Toxic Effects of Substances Chiefly Non-medicinal as to Source:** Toxic effect of carbon monoxide and toxic effect of other gases, fumes or vapors each accounted for about 40%; toxic effect of alcohol accounted for about 12%.
- **Complications of Surgical and Medical Care Not Elsewhere Classified:** More than 99% were complications of procedures not elsewhere classified.

Due to the difficulty of scanning the death files for up to 20 mentioned conditions per death, no attempt was made to obtain greater detail about the nature of injuries sustained.

DISCUSSION

Although we have no crystal ball to foretell the future health care needs of older citizens, the mortality statistics of this report point up several immediate needs, the most obvious being the need to reduce mortality among males, and especially nonwhite males. They are experiencing excess mortality from many underlying causes and mentioned conditions that are indeed preventable or at least their complications are preventable through proper treatment. Older nonwhite females are also experiencing excess mortality from a number of these conditions. The few excesses observed among older white females were relatively minor compared to the excesses observed for other race-sex groups.

An additional word about the minority elderly is that they are exposed to the double jeopardy of poverty and chronic disease, and publicly financed programs such as Medicaid and Medicare have not eradicated the problems of limited availability and accessibility of health care. Thus, efforts must be made to better target services for the minority older adult.

Also obvious is the need to do more about injuries. To quote Baker (13), "Injuries are the most serious public health problem facing developed societies." Once overshadowed by more common causes of death, injuries have grown in relative importance as many diseases are being controlled. A number of public health initiatives designed to prevent injuries are now under way in North Carolina. However, more focus on the elderly is needed as indicated by the death rates for underlying causes as well as mentions of different types of injuries. Again, males are at especially high risk of death from these causes.

Accidental falls are particularly prevalent among the elderly, due to their greater physical vulnerability as well as environmental conditions. Further research is needed to determine the circumstances associated with falls in order to implement preventive strategies. Fractures are greatly increased in the elderly due to many factors. One major factor is osteoporosis.

A final instructive thing to do with the death data would be to examine mentioned conditions in combination with their corresponding underlying causes. One might wish to know, for example, the proportion of hip fractures due to falls as opposed to

other types of accidents. Although such an effort is beyond the manpower resources currently available, the SCHS would attempt to cooperate with specific requests for such data.

Based on information presented in this report, it is clear that detailed analysis and planning for the future of public health and other societal support systems that serve the elderly are immediately required. As noted by Branch (5), "Since the beginning of time, one-half of all the people who have ever survived to age 65 are alive today." And life expectancy continues to increase. . . .

"No one knows to what extent that additional years of life are years of independence and vigor, or years of dependency and frailty" (5). But some groups of the elderly population are certain to survive longer in a disease state, implying even higher levels of demand for health care and other services that support the elderly. According to Storto (5), Rice and Feldman (1983) projected that between 1980 and 2040 the number of persons 65 and older with limited ability to perform the "activities of daily living" will increase 233 percent, the number of elderly nursing home residents will increase 319 percent, and nursing home expenditures for this same group will increase 160 percent.

Branch (5) reports that conventional medical wisdom suggests that major portions of the leading causes of death for persons 65 and older are imminently preventable, i.e., some cancers, stroke, influenza and pneumonia, some atherosclerosis, and diabetes. Many types of heart disease are also preventable. Thus, the potential life span for humans is much greater than the current life span. As reported by Branch, Fries (1980) has suggested the mid-eighties for average life span under normal circumstances. In North Carolina, the median age at death was 72.6 years in 1987.

As noted by Menefee (5), the enactment of Medicare helped reduce the financial barriers that increasingly had limited the elderly's access to adequate medical care. In addition, an expansive hospital building program during the 1950s and 1960s increased the size of the health care network, making hospital care more accessible to many older adults. More recently, health maintenance organizations (HMOs), which reportedly provide more services for the health care dollar, are providing a new option for the medical care of older citizens,

especially those on fixed incomes. The emergence of hospices, with North Carolina being the first state to have a state association to assist local developers, has likewise offered a new option for the elderly sick. Other contributors to improved access to health care include the emergence of community-based health clinics, better emergency medical services, growth in home health services, monumental advances in medical technology, increased awareness of and access to various screening tests, and educational programs that have promoted public awareness of risk factors. Thus, we should continue to see improvements in mortality among the elderly.

It is not possible to know what the health care needs of older citizens will be in the years to come, but as the population ages, use of the various types of

health care services can be expected to grow. But, data related to the current use of hospital outpatient and nonhospital health services and to quality of life among the elderly are woefully lacking. Thus, there is need for an immediate and concerted effort to develop databases that will provide this information. One means to that end would be a periodic statewide survey of our senior citizens.

Meanwhile, it is hoped that this report represents but the first of a series of studies using existing data about the health of North Carolina's older adults. Further development and use of pertinent data must be undertaken if we are to make informed health policy decisions that meet the changing needs of our elders.

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Gerontology is a discipline whose time has arrived.

Harold Cox
Later Life

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TABLE 1
NORTH CAROLINA POPULATION ESTIMATES AS OF JULY 1, 1987:
SELECTED AGE GROUPS BY RACE AND SEX

AGE	TOTAL	WHITE MALES	WHITE FEMALES	NONWHITE MALES	NONWHITE FEMALES
55-64	592,949	224,255	259,710	45,675	63,309
65-74	456,468	156,401	214,232	34,565	51,270
75-84	232,639	67,362	123,568	15,051	26,658
85+	66,909	14,928	39,117	3,931	8,933

Source: North Carolina Office of State Budget and Management (3).

TABLE 2
N.C. POPULATION 1970 AND 1980
AND PROJECTIONS FOR SELECTED YEARS 1988-2010
BY AGE GROUP
(IN THOUSANDS)

YEAR	TOTAL	Age Groups							MEDIAN AGE
		0-4	5-17	18-24	25-64	65+	75+	85+	
1970	5,084	437	1,323	678	2,234	412	143	26	26.5
1980	5,880	404	1,253	822	2,798	603	215	45	29.6
1988	6,485	430	1,180	796	3,298	780	310	69	32.6
1990	6,613	437	1,172	779	3,404	822	329	73	33.2
2000	7,261	423	1,213	739	3,892	995	453	118	36.7
2010	7,776	414	1,192	780	4,208	1,182	546	169	39.7

Source: North Carolina Office of State Budget and Management (2).

TABLE 3
NUMBER OF THE ELDERLY POPULATION AND NUMBER AS A
PERCENTAGE OF THE TOTAL POPULATION
NORTH CAROLINA: 1980-2010

Age	Census		Projections					
	1980		1990		2000		2010	
	No.	%	No.	%	No.	%	No.	%
65+	602,799	10.3	821,681	12.4	994,610	13.7	1,182,036	15.2
85+	45,171	0.8	72,941	1.1	118,107	1.6	168,674	2.2

Source: North Carolina Office of State Budget and Management (2).

TABLE 4
NUMBER OF DEPENDENTS
PER 100 PERSONS AGED 18 TO 64
UNITED STATES AND NORTH CAROLINA: 1980-2010

YEAR	TOTAL		DEPENDENTS UNDER AGE 18		DEPENDENTS AGE 65 YEARS AND ABOVE	
	U.S.	N.C.	U.S.	N.C.	U.S.	N.C.
1980	64.6	62.4	46.0	45.8	18.6	16.7
1990	62.5	58.2	41.9	38.5	20.6	19.7
2000	61.8	56.8	40.7	35.3	21.1	21.5
2010	58.1	55.4	36.2	32.2	21.9	23.7

Source: North Carolina Office of State Budget and Management (2).

TABLE 5
NUMBER OF DEATHS AND DEATH RATES PER 100,000
FOR AGE GROUPS 65 AND OLDER
BY RACE AND SEX
NORTH CAROLINA 1987

Race and Sex	AGE GROUPS							
	65 and Older		65-74		75-84		85 and Older	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Total	37,464	4,955.5	13,515	2,960.8	14,748	6,339.4	9,201	13,751.5
White Males	14,107	5,910.2	6,154	3,934.8	5,629	8,356.3	2,324	15,568.1
White Females	15,557	4,127.4	4,107	1,917.1	6,073	4,914.7	5,377	13,745.9
Nonwhite Males	3,819	7,132.1	1,862	5,387.0	1,450	9,633.9	507	12,897.5
Nonwhite Females	3,981	4,583.2	1,392	2,715.0	1,596	5,986.9	993	11,116.1

TABLE 6

**DEATH RATES PER 100,000 AND RATIOS FOR SELECTED LEADING CAUSES
OF DEATH FOR AGE GROUPS 65 AND OLDER
NORTH CAROLINA AND UNITED STATES 1986**

UNDERLYING CAUSE OF DEATH	65-74			75-84			85 and Older		
	N.C.	U.S.	NC/US RATIO	N.C.	U.S.	NC/US RATIO	N.C.	U.S.	NC/US RATIO
All Causes	3,013.2	2,801.4	1.08	6,268.0	6,348.2	.99	14,256.2	15,398.9	.93
Heart Disease	1,147.6	1,043.0	1.10	2,563.2	2,637.5	.97	6,219.3	7,178.7	.87
Cerebrovascular Disease	200.7	164.1	1.22	712.1	573.8	1.24	2,010.0	1,762.6	1.14
Atherosclerosis	21.4	16.0	1.34	79.2	74.8	1.06	403.6	432.6	.93
Cancer	836.9	847.0	.99	1,148.3	1,287.3	.89	1,442.2	1,612.0	.89
Pneumonia and Influenza	71.2	58.6	1.22	245.2	242.8	1.01	1,044.9	1,032.1	1.01
Chronic Obstructive Pulmonary Disease	145.6	149.2	.98	256.8	294.8	.87	269.0	362.9	.74
Chronic Liver Disease and Cirrhosis	30.9	37.2	.83	20.5	31.5	.65	12.5*	20.8	.60
Diabetes	62.9	59.2	1.06	119.7	121.9	.98	175.2	213.9	.82
Nephritis, Nephrotic Syndrome and Nephrosis	30.0	26.8	1.12	73.4	79.4	.92	195.5	216.4	.90
Septicemia	35.2	22.6	1.56	88.6	64.6	1.37	181.4	181.9	1.00
Motor Vehicle Accidents	22.8	17.9	1.27	30.7	28.8	1.07	17.2*	25.3	.68
Suicide	19.2	19.7	.97	20.9	25.2	.83	18.8*	20.8	.90
Homicide	5.2	4.4	1.18	7.1*	4.6	1.54	6.3*	4.7	1.34

*Rate based on fewer than 20 deaths in the numerator.

Source of U.S. data is the National Center for Health Statistics (8).

TABLE 7

Leading Causes of Death Among the Elderly, Ages 65 and Over
North Carolina 1983-1987
Deaths per 100,000 Population

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	2,056.7	2,517.8	1,749.9	2,495.2	1,831.4
Hypertensive Heart Disease	67.6	44.8	56.6	137.0	131.3
Acute Myocardial Infarction	801.6	1,115.4	643.8	847.3	594.0
Other Forms of Ischemic Heart Disease	598.7	753.0	512.0	695.2	487.8
Hypertension with or without Renal Disease	27.3	21.8	17.9	60.8	61.0
Cerebrovascular Disease	539.0	485.9	531.4	679.8	624.3
Atherosclerosis	71.3	67.4	72.5	82.3	69.9
Cancer	967.8	1,307.0	692.1	1,707.5	746.9
Esophagus	15.5	21.1	6.5	62.3	8.9
Stomach	28.3	30.5	16.8	88.3	32.4
Colon, Rectum, and Anus	118.1	134.8	100.0	139.3	135.9
Pancreas	56.9	65.8	44.0	87.9	67.5
Trachea, Bronchus, and Lung	248.1	481.2	108.8	480.1	60.7
Female Breast	106.4		107.4		101.8
Cervix Uteri	14.3		10.9		28.8
Ovary and Other Uterine Adnexa	36.6		37.5		32.7
Prostate	227.6	175.1		448.8	
Leukemia	33.5	43.1	29.0	37.0	24.7
Septicemia	56.4	53.7	44.7	101.9	84.4
Other Infectious and Parasitic Diseases	17.5	18.9	12.4	40.0	20.6
Diabetes Mellitus	87.3	72.4	73.1	123.4	164.5
Nutritional Deficiencies	7.8	6.5	7.0	14.3	10.2
Anemias	8.9	7.5	8.5	14.3	10.9
Mental Disorders	51.6	45.3	57.0	46.8	49.3
Alcohol-related Conditions	33.6	49.7	20.2	71.3	23.2
Chronic Liver Disease and Cirrhosis	26.3	38.3	19.2	32.8	19.6
Pneumonia and Influenza	190.1	241.0	166.7	226.1	128.4
Chronic Obstructive Pulmonary Disease and Allied Conditions	177.6	332.5	106.8	213.3	36.5
Ulcer of Stomach and Duodenum	17.3	19.6	16.6	20.4	12.1
Nephritis, Nephrotic Syndrome, and Nephrosis	58.9	56.7	41.2	121.9	99.4
Other Genitourinary	58.6	53.1	54.3	100.0	65.5
Arthritis	10.2	8.1	12.2	6.4*	10.2
Injury and Poisoning	129.7	186.5	89.1	219.7	90.5
Motor Vehicle Accidents	24.7	36.1	16.9	46.4	13.3
Falls	28.2	31.8	29.8	27.6	12.3
Suicide	20.7	49.2	7.2	18.9	2.2*
Homicide	5.2	5.8	2.8	18.1	5.3
Total deaths, all causes	4,965.0	6,026.1	4,115.9	6,845.6	4,493.6

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

TABLE 8

Leading Causes of Death Among the Elderly, Ages 65-74
North Carolina 1983-1987
Deaths per 100,000 Population

Causes of Death	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Heart Disease	1,192.8	1,706.2	724.5	1,881.5	1,101.2
Hypertensive Heart Disease	39.3	28.1	22.7	120.7	83.4
Acute Myocardial Infarction	551.8	842.4	349.0	695.2	418.4
Other Forms of Ischemic Heart Disease	319.4	492.7	177.0	491.5	267.2
Hypertension with or without Renal Disease	17.5	14.7	8.2	49.3	41.5
Cerebrovascular Disease	219.4	223.1	155.6	447.4	308.7
Atherosclerosis	20.2	25.5	12.8	39.5	21.4
Cancer	816.2	1,093.6	553.1	1,461.3	617.9
Esophagus	16.2	20.9	5.9	66.7	9.3
Stomach	20.1	20.2	11.0	74.3	18.9
Colon, Rectum, and Anus	83.9	103.8	62.5	106.8	96.7
Pancreas	45.9	53.4	32.0	77.2	58.4
Trachea, Bronchus, and Lung	261.6	475.4	113.8	506.1	61.7
Female Breast	97.8		97.9		97.5
Cervix Uteri	12.4		9.1		25.8
Ovary and Other Uterine Adnexa	33.3		34.5		28.2
Prostate	131.4			282.6	
Leukemia	22.2	95.8	17.4	31.3	14.5
Septicemia	28.7	33.0	17.6	61.5	38.3
Other Infectious and Parasitic Diseases	12.9	13.1	8.5	34.2	15.3
Diabetes Mellitus	62.6	55.0	44.2	97.5	135.0
Nutritional Deficiencies	2.5	2.7	1.3*	8.1*	3.2*
Anemias	3.9	4.1	2.6	9.3*	4.8*
Mental Disorders	11.4	11.1	9.3	22.6	12.9
Alcohol-related Conditions	40.1	57.2	21.3	92.3	29.4
Chronic Liver Disease and Cirrhosis	29.6	42.1	19.9	41.2	24.2
Pneumonia and Influenza	64.6	96.8	35.5	131.2	41.5
Chronic Obstructive Pulmonary Disease and Allied Conditions	140.8	250.8	82.4	173.5	30.6
Ulcer of Stomach and Duodenum	10.1	13.8	7.2	16.2	6.9*
Nephritis, Nephrotic Syndrome, and Nephrosis	30.8	28.5	16.0	77.2	65.7
Other Genitourinary	23.1	20.6	15.4	60.4	36.3
Arthritis	8.8	7.5	9.9	7.0*	9.3
Injury and Poisoning	93.4	138.2	52.2	193.3	59.3
Motor Vehicle Accidents	22.1	31.5	14.4	42.9	10.9
Falls	10.6	14.2	8.6	19.2	2.0*
Suicide	20.6	44.4	8.2	18.0	2.4*
Homicide	5.1	6.3	2.3	14.5	6.4*
Total deaths, all causes	3,026.6	4,088.5	1,939.3	5,231.2	2,778.3

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

TABLE 9

Leading Causes of Death Among the Elderly, Ages 75-84
North Carolina 1983-1987
Deaths per 100,000 Population

Causes of Death	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Heart Disease	2,628.8	3,462.8	2,141.8	3,250.8	2,387.9
Hypertensive Heart Disease	88.2	63.8	72.0	160.6	180.7
Acute Myocardial Infarction	1,054.1	1,530.8	855.0	1,058.7	762.8
Other Forms of Ischemic Heart Disease	744.2	1,021.1	589.1	926.7	648.0
Hypertension with or without Renal Disease	33.7	25.0	23.1	73.5	80.3
Cerebrovascular Disease	736.3	760.0	651.1	1,035.5	888.1
Atherosclerosis	81.3	85.5	72.7	125.2	83.5
Cancer	1,151.1	1,646.2	803.7	2,177.2	885.6
Esophagus	14.1	20.8	5.3	61.2	9.6*
Stomach	37.1	45.2	21.9	112.9	41.8
Colon, Rectum, and Anus	149.9	175.3	125.1	186.4	177.5
Pancreas	71.5	88.1	55.9	114.3	75.5
Trachea, Bronchus, and Lung	247.3	523.2	106.2	480.3	60.2
Female Breast	115.1		117.2		106.0
Cervix Uteri	17.5		14.5		31.3
Ovary and Other Uterine Adnexa	39.6		40.1		37.7
Prostate	364.6	279.7		725.3	
Leukemia	46.3	64.4	37.2	49.0	41.0
Septicemia	76.5	78.8	56.8	144.2	120.4
Other Infectious and Parasitic Diseases	22.2	26.9	14.5	47.6	30.5
Diabetes Mellitus	116.7	101.9	97.6	181.0	203.1
Nutritional Deficiencies	10.0	9.9	8.3	19.1*	12.8*
Anemias	12.9	12.8	11.8	16.3*	16.1
Mental Disorders	72.4	78.5	67.6	73.5	78.7
Alcohol-related Conditions	26.5	40.4	19.8	34.0	17.7
Chronic Liver Disease and Cirrhosis	23.4	35.2	19.2	17.7*	16.1
Pneumonia and Influenza	235.1	344.1	174.7	322.5	185.5
Chronic Obstructive Pulmonary Disease and Allied Conditions	229.2	475.8	125.4	302.1	40.1
Ulcer of Stomach and Duodenum	22.8	25.3	22.6	24.5*	16.9
Nephritis, Nephrotic Syndrome, and Nephrosis	30.3	89.7	52.9	170.1	128.5
Other Genitourinary	78.0	84.9	64.8	144.2	81.9
Arthritis	12.4	9.3	15.0	5.4*	12.0*
Injury and Poisoning	153.0	242.2	100.2	250.4	112.4
Motor Vehicle Accidents	29.7	42.0	21.3	55.7	21.7
Falls	33.0	44.2	31.4	29.9	13.7*
Suicide	22.7	60.2	6.5	21.8*	2.4*
Homicide	5.3	4.5*	3.5	23.1*	4.8*
Total deaths, all causes	6,305.5	8,288.9	4,949.9	9,089.8	5,861.5

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

TABLE 10

Leading Causes of Death Among the Elderly, Ages 85 and Over
North Carolina 1983-1987
Deaths per 100,000 Population

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	6,144.6	6,780.3	6,367.1	5,119.4	4,572.4
Hypertensive Heart Disease	194.4	133.8	200.8	193.3	272.0
Acute Myocardial Infarction	1,676.8	2,116.4	1,653.8	1,405.2	1,146.8
Other Forms of Ischemic Heart Disease	2,058.5	2,274.3	2,184.6	1,640.3	1,340.4
Hypertension with or without Renal Disease	74.2	81.1	56.3	114.9	120.1
Cerebrovascular Disease	2,102.0	2,008.2	2,300.0	1,405.2	1,737.3
Atherosclerosis	397.4	422.7	414.7	303.0	323.5
Cancer	1,394.1	2,023.9	1,129.8	2,120.9	1,107.6
Esophagus	16.0	24.2*	14.2	26.1*	4.9*
Stomach	54.9	72.6	33.6	120.1	85.8
Colon, Rectum, and Anus	247.1	279.0	233.8	250.7	247.5
Pancreas	83.3	96.8	74.5	83.6*	98.0
Trachea, Bronchus, and Lung	154.9	354.4	88.2	245.5	56.4
Female Breast	127.9		130.8		115.2
Cervix Uteri	15.2		9.7*		39.2*
Ovary and Other Uterine Adnexa	45.7		46.1		44.1*
Prostate	610.7	536.6		882.8	
Leukemia	68.6	93.9	68.8	41.8*	36.8*
Septicemia	181.7	158.0	161.0	303.0	254.8
Other Infectious and Parasitic Diseases	33.0	44.1	27.9	62.7*	22.1*
Diabetes Mellitus	158.2	122.4	159.3	135.8	225.4
Nutritional Deficiencies	36.6	31.3	35.3	52.2*	44.1*
Anemias	30.1	19.9*	31.3	52.2*	31.9*
Mental Disorders	262.8	254.8	295.8	161.9	181.3
Alcohol-related Conditions	13.4	12.8*	14.8	26.1*	2.5*
Chronic Liver Disease and Cirrhosis	12.7	12.8*	14.8	15.7*	2.5*
Pneumonia and Influenza	917.7	1,286.6	893.7	710.4	482.7
Chronic Obstructive Pulmonary Disease and Allied Conditions	255.6	547.9	186.6	229.8	61.3
Ulcer of Stomach and Duodenum	48.7	55.5	51.2	41.8*	29.4*
Nephritis, Nephrotic Syndrome, and Nephrosis	181.7	203.5	147.9	339.5	215.6
Other Genitourinary	241.2	250.5	243.5	287.3	193.6
Arthritis	13.1	8.5*	16.5	5.2*	9.8*
Injury and Poisoning	303.6	442.6	265.1	339.5	213.2
Motor Vehicle Accidents	25.5	56.9	16.5	41.8*	2.5*
Falls	136.0	160.8	145.6	94.0*	71.1
Suicide	14.4	49.8	3.4*	15.7*	0.0*
Homicide	5.6*	7.1*	3.4*	31.3*	0.0*
Total deaths, all causes	13,935.9	16,172.3	13,910.1	12,761.8	10,747.4

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

TABLE 11
PERCENTAGE CHANGES FROM FIRST-LISTED AGE TO SECOND-LISTED AGE
IN DEATH RATES ACROSS ELDERLY AGE GROUPS
NORTH CAROLINA 1983-87

Underlying Cause of Death	Age Groups		
	65-74 to 85 and Older	65-74 to 75-84	75-84 to 85 and Older
Heart Disease	415.1	120.4	133.7
Hypertensive Heart Disease	394.7	124.4	120.4
Acute Myocardial Infarction	203.9	91.0	59.1
Other Forms of Ischemic Heart Disease	544.5	133.0	176.6
Hypertension with or without Renal Disease	324.0	92.6	120.2
Cerebrovascular Disease	858.1	235.6	185.5
Atherosclerosis	1,867.3	302.5	388.8
Cancer	70.8	41.0	21.1
Esophagus	-1.2	-13.0	13.5
Stomach	173.1	84.6	48.0
Colon, Rectum, and Anus	194.5	78.7	64.8
Pancreas	81.5	55.8	16.5
Trachea, Bronchus, and Lung	-40.8	-5.5	-37.4
Female Breast	30.8	17.7	11.1
Cervix Uteri	22.6	41.1	-13.1
Ovary and Other Uterine Adnexa	37.2	18.9	15.4
Prostate	364.8	177.5	67.5
Leukemia	209.0	108.6	48.2
Septicemia	533.1	166.6	137.5
Other Infectious and Parasitic Diseases	155.8	72.1	48.6
Diabetes Mellitus	152.7	86.4	35.6
Nutritional Deficiencies	1,364.0	300.0	266.0
Anemias	671.8	230.8	133.3
Mental Disorders	2,205.3	535.1	263.0
Alcohol-related Conditions	-66.6	-33.9	-49.4
Chronic Liver Disease and Cirrhosis	-57.1	-20.9	-45.7
Pneumonia and Influenza	1,320.6	263.9	290.3
Chronic Obstructive Pulmonary Disease and Allied Conditions	81.5	62.8	11.5
Ulcer of Stomach and Duodenum	382.2	125.7	113.6
Nephritis, Nephrotic Syndrome and Nephrosis	489.9	160.7	126.3
Other Genitourinary	944.2	237.7	209.2
Arthritis	48.9	40.9	5.6
Injury and Poisoning	225.1	63.8	98.4
Motor Vehicle Accidents	15.4	34.4	-14.1
Falls	1,183.0	211.3	312.1
Suicide	-30.1	10.2	-36.6
Homicide	9.8*	3.9	5.7*
Total deaths, all causes	360.4	108.3	121.0

*At least one of the rates was based on fewer than 20 events in the numerator.

TABLE 12

Percent Changes in Death Rates for Selected Leading Causes of Death Among the Elderly, Ages 65 and Over
North Carolina 1968-72 to 1983-87

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	-20.5	-24.0	-16.2	-19.0	-17.5
Cerebrovascular Disease	-47.5	-54.3	-43.2	-46.0	-44.8
Atherosclerosis	-50.2	-53.2	-49.7	-50.0	-43.0
Cancer	24.1	26.1	17.2	55.1	24.1
Diabetes Mellitus	-30.1	-36.7	-32.9	-1.4	-26.3
Chronic Liver Disease and Cirrhosis	12.8	-0.2	24.9	38.3	52.2
Motor Vehicle Accidents	-42.0	-44.8	-28.4	-46.8	-44.6
Falls	-48.6	-47.3	-51.8	-10.2	-56.4
Suicide	24.6	16.3	91.1	55.1	>
Homicide	-20.8	-28.7	30.9	-33.5	4.3*
Total deaths, all causes	-15.3	-17.3	-13.3	-7.9	-15.1

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

> Increase in death rate from zero in 1968-72; the percent increase is not calculable.

TABLE 13

Percent Changes in Death Rates for Selected Leading Causes of Death Among the Elderly, Ages 65-74
North Carolina 1968-72 to 1983-87

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	-27.8	-26.0	-28.1	-24.5	-33.9
Cerebrovascular Disease	-58.7	-60.0	-54.9	-55.5	-62.6
Atherosclerosis	-50.7	-36.3	-53.0	-53.2	-67.0
Cancer	23.2	23.8	20.8	43.6	10.3
Diabetes Mellitus	-36.0	-33.8	-40.8	-21.2	-36.1
Chronic Liver Disease and Cirrhosis	17.7	0.9	28.1	70.0	51.1
Motor Vehicle Accidents	-45.6	-42.4	-41.2	-53.7	-56.4
Falls	-50.0	-48.7	-51.6	-23.6	-84.4*
Suicide	19.3	5.9	81.3	43.9*	>
Homicide	-33.6	-35.6	26.8*	-56.6	25.5*
Total deaths, all causes	-20.1	-18.5	-17.9	-15.3	-31.5

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

> Increase in death rate from zero in 1968-72; the percent increase is not calculable.

TABLE 14

Percent Changes in Death Rates for Selected Leading Causes of Death Among the Elderly, Ages 75-84
North Carolina 1968-72 to 1983-87

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	-27.3	-25.5	-29.4	-20.4	-19.3
Cerebrovascular Disease	-51.8	-54.1	-53.9	-39.0	-43.2
Atherosclerosis	-59.4	-62.8	-59.9	-48.7	-50.8
Cancer	20.0	28.4	6.9	60.3	27.7
Diabetes Mellitus	-31.7	-41.0	-38.6	44.1	-20.7
Chronic Liver Disease and Cirrhosis	6.9	0.7	18.6	-30.9*	140.3*
Motor Vehicle Accidents	-38.1	-53.0	-7.1	-29.6	0.4*
Falls	-57.3	-40.0	-65.7	-14.2*	-71.6*
Suicide	42.5	43.5	117.6*	55.7*	>
Homicide	14.7	-6.2*	3.8*	65.0*	45.5*
Total deaths, all causes	-21.7	-18.4	-26.6	-4.6	-16.0

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

> Increase in death rate from zero in 1968-72; the percent increase is not calculable.

TABLE 15

Percent Changes in Death Rates for Selected Leading Causes of Death Among the Elderly, Ages 85 and Over
North Carolina 1968-72 to 1983-87

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	-18.6	-26.1	-16.7	-12.1	-3.8
Cerebrovascular Disease	-45.6	-54.6	-44.4	-41.6	-28.4
Atherosclerosis	-57.6	-58.8	-59.3	-61.3	-34.8
Cancer	17.8	18.7	5.2	113.7	67.0
Diabetes Mellitus	-20.2	-41.2	-19.4	-3.3*	4.8
Chronic Liver Disease and Cirrhosis	20.2*	-10.5*	47.9*	57.0*	-58.3*
Motor Vehicle Accidents	-36.7	-31.1	-11.3*	-40.5*	-89.5*
Falls	-54.6	-60.8	-54.8	17.2*	-30.1*
Suicide	11.5*	2.7*	>	>	>
Homicide	47.4*	86.8*	>	213.0*	-100.0*
Total deaths, all causes	-19.2	-23.7	-19.8	-5.5	-0.2

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

> Increase in death rate from zero in 1968-72; the percent increase is not calculable.

TABLE 16
RATIOS OF SELECTED REPORTED CONDITIONS TO UNDERLYING
CAUSES OF DEATH* FOR AGE GROUPS 65 AND OLDER
NORTH CAROLINA 1983-87

MENTIONED CONDITION	AGE AT DEATH			
	65 And Older	65-74	75-84	85 And Older
Atherosclerosis	19.4	30.5	21.9	13.7
Hypertension with or without Renal Disease	16.2	16.7	17.0	13.9
Anemias	11.0	11.4	10.1	11.7
Nutritional Deficiencies	9.6	14.6	9.6	7.3
Arthritis	8.8	5.5	9.6	21.3
Infectious and Parasitic Diseases	4.2	4.2	4.1	4.2
Tuberculosis	2.4	2.4	2.5	2.4
Septicemia	4.7	5.0	4.6	4.4
Hyperplasia of Prostate	6.8	6.6	7.5	6.6
Nephritis, Nephrotic Syndrome, and Nephrosis	5.8	6.5	5.6	5.3
Diabetes Mellitus	4.9	5.0	4.9	4.9
Pneumonia and Influenza	2.7	3.4	2.8	2.2
Asthma	2.5	2.4	2.5	3.2

*Numbers in Table 17 divided by numbers in first table of Appendix III.

TABLE 17

Selected Conditions Mentioned on the Death Certificate, Ages 65 and Over
North Carolina 1983-87
Number of Mentions

Mentioned Condition	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Hypertension with or without Renal Disease	15,637	4,095	6,349	2,091	3,102
Atherosclerosis	49,139	17,785	22,332	4,080	4,942
Hyperplasia of Prostate	337	254		83	
Infectious and Parasitic Disease	10,900	3,599	4,204	1,494	1,603
Tuberculosis	473	151	98	151	73
Septicemia	9,398	3,052	3,711	1,208	1,427
Diabetes Mellitus	15,254	4,715	6,462	1,372	2,705
Nutritional Deficiencies	2,640	892	1,029	387	332
Anemias	3,454	1,000	1,421	486	547
Pneumonia and Influenza	18,098	7,872	7,225	1,779	1,222
Asthma	814	257	347	82	128
Nephritis, Nephrotic Syndrome, and Nephrosis	12,115	4,197	4,158	1,756	2,004
Arthritis	3,193	862	1,791	177	363

Selected Conditions Mentioned on the Death Certificate, Ages 65 and Over
North Carolina 1983-87
Deaths per 100,000 Population

Mentioned Condition	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Hypertension with or without Renal Disease	441.2	367.3	362.7	789.2	750.3
Atherosclerosis	1,386.6	1,595.3	1,275.7	1,539.9	1,195.3
Hyperplasia of Prostate	24.4	22.8		31.3	
Infectious and Parasitic Disease	307.6	322.8	240.1	563.9	387.7
Tuberculosis	13.3	13.5	5.6	57.0	17.7
Septicemia	265.2	273.8	212.0	455.9	345.1
Diabetes Mellitus	430.4	422.9	369.1	517.8	654.2
Nutritional Deficiencies	74.5	80.0	58.8	146.1	80.3
Anemias	97.5	89.7	81.2	183.4	132.3
Pneumonia and Influenza	510.7	706.1	412.7	671.5	295.6
Asthma	23.0	23.1	19.8	30.9	31.0
Nephritis, Nephrotic Syndrome, and Nephrosis	341.9	376.5	237.5	662.8	484.7
Arthritis	90.1	77.3	102.3	66.8	87.8

TABLE 18

Selected Conditions Mentioned on the Death Certificate, Ages 65-74
North Carolina 1983-87
Number of Mentions

Mentioned Condition	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Hypertension with or without Renal Disease	6,316	2,008	1,824	1,152	1,332
Atherosclerosis	13,314	6,521	3,704	1,693	1,396
Hyperplasia of Prostate	84	54		30	
Infectious and Parasitic Disease	3,756	1,469	1,099	679	509
Tuberculosis	206	66	37	78	25
Septicemia	3,123	1,211	943	536	433
Diabetes Mellitus	6,715	2,335	2,303	756	1,321
Nutritional Deficiencies	788	331	195	176	86
Anemias	963	305	291	208	159
Pneumonia and Influenza	4,803	2,549	1,193	760	301
Asthma	388	130	132	45	81
Nephritis, Nephrotic Syndrome, and Nephrosis	4,319	1,622	1,123	782	792
Arthritis	1,051	374	454	82	141

Selected Conditions Mentioned on the Death Certificate, Ages 65-74
North Carolina 1983-87
Deaths per 100,000 Population

Mentioned Condition	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Hypertension with or without Renal Disease	292.3	274.2	180.9	668.6	536.9
Atherosclerosis	616.1	890.3	367.4	982.5	562.7
Hyperplasia of Prostate	9.3	7.4		17.4	
Infectious and Parasitic Disease	173.8	200.6	109.0	394.1	205.2
Tuberculosis	9.5	9.0	3.7	45.3	10.1
Septicemia	144.5	165.3	93.5	311.1	174.5
Diabetes Mellitus	310.7	318.8	228.5	438.7	532.4
Nutritional Deficiencies	36.5	45.2	19.3	102.1	34.7
Anemias	44.6	41.6	28.9	120.7	64.1
Pneumonia and Influenza	222.3	348.0	118.3	441.1	121.3
Asthma	18.0	17.7	13.1	26.1	32.6
Nephritis, Nephrotic Syndrome, and Nephrosis	199.9	221.5	111.4	453.8	319.2
Arthritis	48.6	51.1	45.0	47.6	56.8

TABLE 19

Selected Conditions Mentioned on the Death Certificate, Ages 75-84
North Carolina 1983-87
Number of Mentions

Mentioned Condition	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Hypertension with or without Renal Disease	6,157	1,543	2,669	726	1,219
Atherosclerosis	19,135	7,123	8,396	1,609	2,007
Hyperplasia of Prostate	141	109		32	
Infectious and Parasitic Disease	4,383	1,434	1,686	578	685
Tuberculosis	191	59	44	53	35
Septicemia	3,804	1,234	1,479	476	615
Diabetes Mellitus	6,160	1,837	2,788	511	1,024
Nutritional Deficiencies	1,029	344	397	154	134
Anemias	1,410	421	561	193	235
Pneumonia and Influenza	7,036	3,208	2,622	696	510
Asthma	323	100	157	33	33
Nephritis, Nephrotic Syndrome, and Nephrosis	4,847	1,714	1,657	697	779
Arthritis	1,288	330	751	68	139

Selected Conditions Mentioned on the Death Certificate, Ages 75-84
North Carolina 1983-87
Deaths per 100,000 Population

Mentioned Condition	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Hypertension with or without Renal Disease	571.7	494.4	470.9	987.9	978.8
Atherosclerosis	1,776.8	2,282.1	1,481.4	2,189.4	1,611.5
Hyperplasia of Prostate	36.6	34.9		43.5	
Infectious and Parasitic Disease	407.0	459.4	297.5	786.5	550.0
Tuberculosis	17.7	18.9	7.8	72.1	28.1
Septicemia	353.2	395.4	261.0	647.7	493.8
Diabetes Mellitus	572.0	588.6	491.9	695.3	822.2
Nutritional Deficiencies	95.6	110.2	70.0	209.6	107.6
Anemias	130.9	134.9	99.0	262.6	188.7
Pneumonia and Influenza	653.4	1,027.8	462.6	947.1	409.5
Asthma	30.0	32.0	27.7	44.9	26.5
Nephritis, Nephrotic Syndrome, and Nephrosis	450.1	549.2	292.4	948.4	625.5
Arthritis	119.6	105.7	132.5	92.5	111.6

TABLE 20

Selected Conditions Mentioned on the Death Certificate, Ages 85 and Over
North Carolina 1983-87
Number of Mentions

Mentioned Condition	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Hypertension with or without Renal Disease	3,164	544	1,856	213	551
Atherosclerosis	16,690	4,141	10,232	778	1,539
Hyperplasia of Prostate	112	91		21	
Infectious and Parasitic Disease	2,761	696	1,419	237	409
Tuberculosis	76	26	17	20	13
Septicemia	2,471	607	1,289	196	379
Diabetes Mellitus	2,379	543	1,371	105	360
Nutritional Deficiencies	823	217	437	57	112
Anemias	1,081	274	569	85	153
Pneumonia and Influenza	6,259	2,115	3,410	323	411
Asthma	103	27	58	4	14
Nephritis, Nephrotic Syndrome, and Nephrosis	2,949	861	1,378	277	433
Arthritis	854	158	586	27	83

Selected Conditions Mentioned on the Death Certificate, Ages 85 and Over
North Carolina 1983-87
Deaths per 100,000 Population

Mentioned Condition	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Hypertension with or without Renal Disease	1,034.0	774.2	1,055.9	1,112.7	1,350.2
Atherosclerosis	5,454.4	5,893.7	5,820.9	4,064.1	3,771.1
Hyperplasia of Prostate	125.3	129.5		109.7	
Infectious and Parasitic Disease	902.3	990.6	807.3	1,238.1	1,002.2
Tuberculosis	24.8	37.0	9.7 *	104.5	31.9 *
Septicemia	807.5	863.9	733.3	1,023.9	928.7
Diabetes Mellitus	777.5	772.8	780.0	548.5	882.1
Nutritional Deficiencies	269.0	308.8	248.6	297.8	274.4
Anemias	353.3	390.0	323.7	444.0	374.9
Pneumonia and Influenza	2,045.5	3,010.2	1,939.9	1,687.3	1,007.1
Asthma	33.7	38.4	33.0	20.9 *	34.3 *
Nephritis, Nephrotic Syndrome, and Nephrosis	963.7	1,225.4	783.9	1,447.0	1,061.0
Arthritis	279.1	224.9	333.4	141.0	203.4

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

TABLE 21

Nature of Injury Among the Elderly, Ages 65 and Over
North Carolina 1983-1987
Number of Injuries

Nature of Injury	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Skull Fractures	110	65	27	11	7
Neck/Trunk Fractures	454	175	226	31	22
Upper Limb Fractures	139	34	93	4	8
Hip Fractures	1,729	540	1,011	77	101
Other Lower Limb Fractures	382	111	225	18	28
Intracranial Injury except Skull Fracture	918	456	297	99	66
Internal Injury of Chest, Abdomen, Pelvis	482	261	149	50	22
Open Wound of Head, Neck, and Trunk	713	523	95	74	21
Effects of Foreign Body Entering Through Orifice	1,682	655	647	210	170
Burns	226	83	42	62	39
Certain Traumatic Complications and Unspecified Injuries	1,009	431	390	134	54
Poisonings by Drugs, Medicinal, and Biological Substances	245	67	128	18	32
Toxic Effects of Substances Chiefly Nonmedicinal as to Source	258	97	61	63	37
Complications of Surgical and Medical Care Not Elsewhere Classified	2,183	950	835	198	200

Nature of Injury Among the Elderly, Ages 65 and Over
North Carolina 1983-1987
Injuries per 100,000 Population

Nature of Injury	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Skull Fractures	3.1	5.8	1.5	4.2 *	1.7 *
Neck/Trunk Fractures	12.8	15.7	12.9	11.7	5.3
Upper Limb Fractures	3.9	3.0	5.3	1.5 *	1.9 *
Hip Fractures	48.8	48.4	57.8	29.1	24.4
Other Lower Limb Fractures	10.8	10.0	12.9	6.8	6.8
Intracranial Injury except Skull Fracture	25.9	40.9	17.0	37.4	16.0
Internal Injury of Chest, Abdomen, Pelvis	13.6	23.4	8.5	18.9	5.3
Open Wound of Head, Neck, and Trunk	20.1	46.9	5.4	27.9	5.1
Effects of Foreign Body Entering Through Orifice	47.5	58.8	37.0	79.3	41.1
Burns	6.4	7.4	2.4	23.4	9.4
Certain Traumatic Complications and Unspecified Injuries	28.5	38.7	22.3	50.6	13.1
Poisonings by Drugs, Medicinal, and Biological Substances	6.9	6.0	7.3	6.8 *	7.7
Toxic Effects of Substances Chiefly Nonmedicinal as to Source	7.3	8.7	3.5	23.8	8.9
Complications of Surgical and Medical Care Not Elsewhere Classified	61.6	85.2	47.7	74.7	48.4

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

TABLE 22

Nature of Injury Among the Elderly, Ages 65-74
North Carolina 1983-1987
Number of Injuries

Nature of Injury	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Skull Fractures	67	43	16	5	3
Neck/Trunk Fractures	128	67	48	10	3
Upper Limb Fractures	27	9	14	3	1
Hip Fractures	219	84	108	21	6
Other Lower Limb Fractures	94	39	40	7	8
Intracranial Injury except Skull Fracture	433	244	102	56	31
Internal Injury of Chest, Abdomen, Pelvis	259	146	71	32	10
Open Wound of Head, Neck, and Trunk	423	312	55	45	11
Effects of Foreign Body Entering through Orifice	513	215	143	91	64
Burns	117	42	23	32	20
Certain Traumatic Complications and Unspecified Injuries	415	201	116	81	17
Poisonings by Drugs, Medicinal, and Biological Substances	91	27	42	6	16
Toxic Effects of Substances Chiefly Nonmedicinal as to Source	155	59	36	42	18
Complications of Surgical and Medical Care Not Elsewhere Classified	1,005	488	323	104	90

Nature of Injury Among the Elderly, Ages 65-74
North Carolina 1983-1987
Injuries per 100,000 Population

Nature of Injury	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Skull Fractures	3.1	5.9	1.6 *	2.9 *	1.2 *
Neck/Trunk Fractures	5.9	9.1	4.8	5.8 *	1.2 *
Upper Limb Fractures	1.2	1.2 *	1.4 *	1.7 *	0.4 *
Hip Fractures	10.1	11.5	10.7	12.2	2.4 *
Other Lower Limb Fractures	4.3	5.3	4.0	4.1 *	3.2 *
Intracranial Injury except Skull Fracture	20.0	33.3	10.1	32.5	12.5
Internal Injury of Chest, Abdomen, Pelvis	12.0	19.9	7.0	18.6	4.0 *
Open Wound of Head, Neck, and Trunk	19.6	42.6	5.5	26.1	4.4 *
Effects of Foreign Body Entering through Orifice	23.7	29.4	14.2	52.8	25.8
Burns	5.4	5.7	2.3	18.6	8.1
Certain Traumatic Complications and Unspecified Injuries	19.2	27.4	11.5	47.0	6.9 *
Poisonings by Drugs, Medicinal, and Biological Substances	4.2	3.7	4.2	3.5 *	6.4 *
Toxic Effects of Substances Chiefly Nonmedicinal as to Source	7.2	8.1	3.6	24.4	7.3 *
Complications of Surgical and Medical Care Not Elsewhere Classified	46.5	66.6	32.0	60.4	36.3

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

TABLE 23

Nature of Injury Among the Elderly, Ages 75-84
North Carolina 1983-1987
Number of Injuries

Nature of Injury	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Skull Fractures	33	17	8	4	4
Neck/Trunk Fractures	190	67	94	15	14
Upper Limb Fractures	49	12	34	0	3
Hip Fractures	647	219	360	27	41
Other Lower Limb Fractures	143	44	80	7	12
Intracranial Injury except Skull Fracture	324	147	129	26	22
Internal Injury of Chest, Abdomen, Pelvis	173	89	58	16	10
Open Wound of Head, Neck, and Trunk	244	178	33	23	10
Effects of Foreign Body Entering through Orifice	654	267	247	77	63
Burns	84	31	16	26	11
Certain Traumatic Complications and Unspecified Injuries	353	150	139	41	23
Poisonings by Drugs, Medicinal, and Biological Substances	98	29	52	10	7
Toxic Effects of Substances Chiefly Nonmedicinal as to Source	71	28	15	17	11
Complications of Surgical and Medical Care Not Elsewhere Classified	799	333	326	68	72

Nature of Injury Among the Elderly, Ages 75-84
North Carolina 1983-1987
Injuries per 100,000 Population

Nature of Injury	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Skull Fractures	3.1	5.4 *	1.4 *	5.4 *	3.2 *
Neck/Trunk Fractures	17.6	21.5	16.6	20.4 *	11.2 *
Upper Limb Fractures	4.6	3.8 *	6.0	0.0 *	2.4 *
Hip Fractures	60.1	70.2	63.5	36.7	32.9 *
Other Lower Limb Fractures	13.3	14.1	14.1	9.5 *	9.6 *
Intracranial Injury except Skull Fracture	30.1	47.1	22.8	35.4	17.7
Internal Injury of Chest, Abdomen, Pelvis	16.1	28.5	10.2	21.8 *	8.0 *
Open Wound of Head, Neck, and Trunk	22.7	57.0	5.8	31.3	8.0 *
Effects of Foreign Body Entering through Orifice	60.7	85.5	43.6	104.8	50.6
Burns	7.8	9.9	2.8 *	35.4	8.8 *
Certain Traumatic Complications and Unspecified Injuries	32.8	48.1	24.5	55.8	18.5
Poisonings by Drugs, Medicinal, and Biological Substances	9.1	9.3	9.2	13.6 *	5.6 *
Toxic Effects of Substances Chiefly Nonmedicinal as to Source	6.6	9.0	2.6 *	23.1 *	8.8 *
Complications of Surgical and Medical Care Not Elsewhere Classified	74.2	106.7	57.5	92.5	57.8

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

TABLE 24

Nature of Injury Among the Elderly, Ages 85 and Over
North Carolina 1983-1987
Number of Injuries

Nature of Injury	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Skull Fractures	10	5	3	2	0
Neck/Trunk Fractures	136	41	84	6	5
Upper Limb Fractures	63	13	45	1	4
Hip Fractures	863	237	543	29	54
Other Lower Limb Fractures	145	28	105	4	8
Intracranial Injury except Skull Fracture	161	65	66	17	13
Internal Injury of Chest, Abdomen, Pelvis	50	26	20	2	2
Open Wound of Head, Neck, and Trunk	46	33	7	6	0
Effects of Foreign Body Entering through Orifice	515	173	257	42	43
Burns	25	10	3	4	8
Certain Traumatic Complications and Unspecified Injuries	241	80	135	12	14
Poisonings by Drugs, Medicinal, and Biological Substances	56	11	34	2	9
Toxic Effects of Substances Chiefly Nonmedicinal as to Source	32	10	10	4	8
Complications of Surgical and Medical Care Not Elsewhere Classified	379	129	186	26	38

Nature of Injury Among the Elderly, Ages 85 and Over
North Carolina 1983-1987
Injuries per 100,000 Population

Nature of Injury	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Skull Fractures	3.3 *	7.1 *	1.7 *	10.4 *	0.0 *
Neck/Trunk Fractures	44.4	58.4	47.8	31.3 *	12.3 *
Upper Limb Fractures	20.6	18.5 *	25.6	5.2 *	9.8 *
Hip Fractures	282.0	337.3	308.9	151.5	132.3
Other Lower Limb Fractures	47.4	39.9	59.7	20.9 *	19.6 *
Intracranial Injury except Skull Fracture	52.6	92.5	37.5	88.8 *	31.9 *
Internal Injury of Chest, Abdomen, Pelvis	16.3	37.0	11.4	10.4 *	4.9 *
Open Wound of Head, Neck, and Trunk	15.0	47.0	4.0 *	31.3 *	0.0 *
Effects of Foreign Body Entering through Orifice	168.3	246.2	146.2	219.4	105.4
Burns	8.2	14.2 *	1.7 *	20.9 *	19.6 *
Certain Traumatic Complications and Unspecified Injuries	78.8	113.9	76.8	62.7 *	34.3 *
Poisonings by Drugs, Medicinal, and Biological Substances	18.3	15.7 *	19.3 *	10.4 *	22.1 *
Toxic Effects of Substances Chiefly Nonmedicinal as to Source	10.5	14.2 *	5.7 *	20.9 *	19.6 *
Complications of Surgical and Medical Care Not Elsewhere Classified	123.9	183.6	105.8	135.8	93.1

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

Figure 1
RATIOS OF N.C. TO U.S. DEATH RATES FOR LEADING CAUSES
AMONG AGE GROUPS 65 AND OLDER
NORTH CAROLINA AND UNITED STATES, 1986

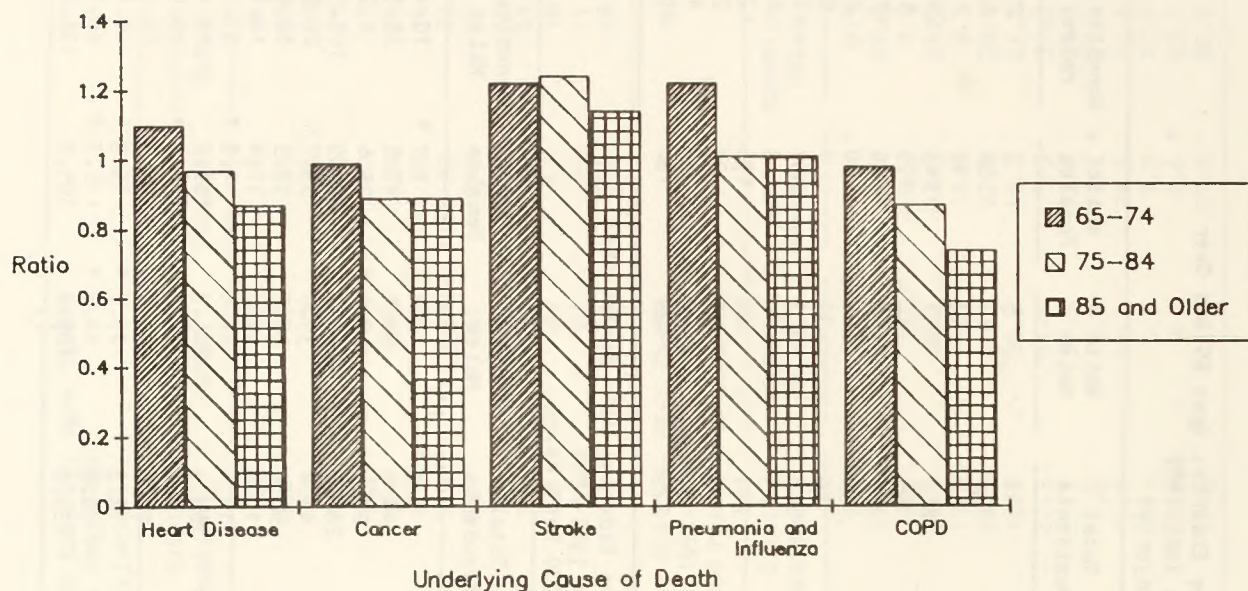
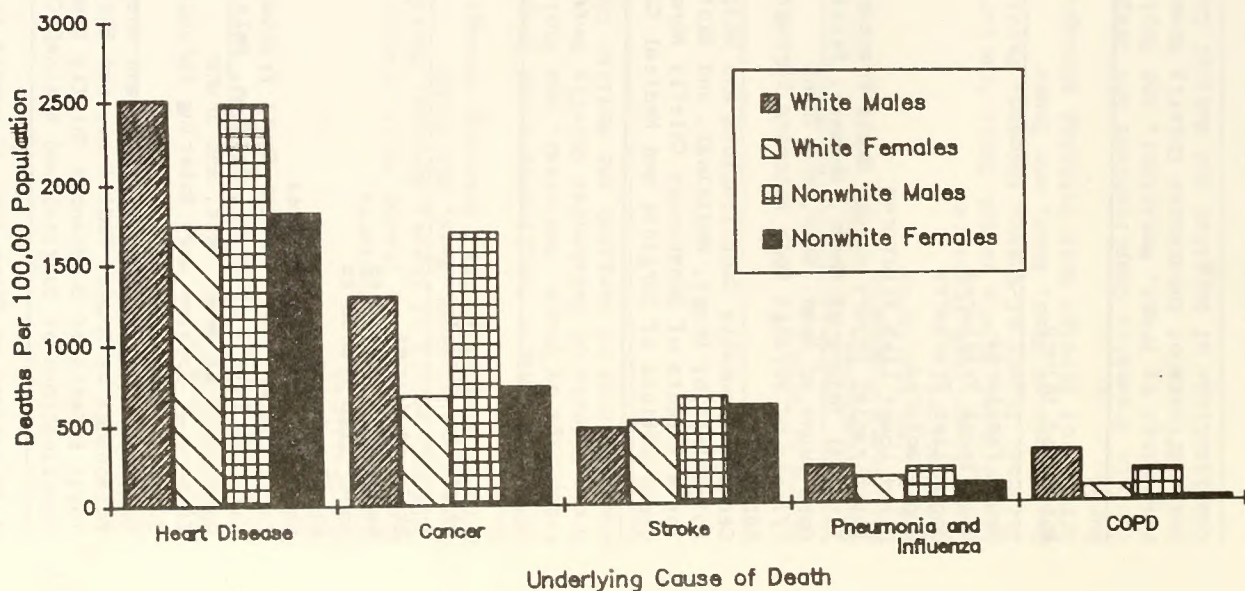


Figure 2
DEATH RATES FOR LEADING CAUSES*
AMONG THE POPULATION 65 AND OLDER BY RACE AND SEX
NORTH CAROLINA 1983-1987



*These five causes accounted for 4 out of 5 deaths to residents 65 and older.

Figure 3
DEATH RATES FOR LEADING CAUSES
AMONG AGE GROUPS 65 AND OLDER
NORTH CAROLINA 1983-1987

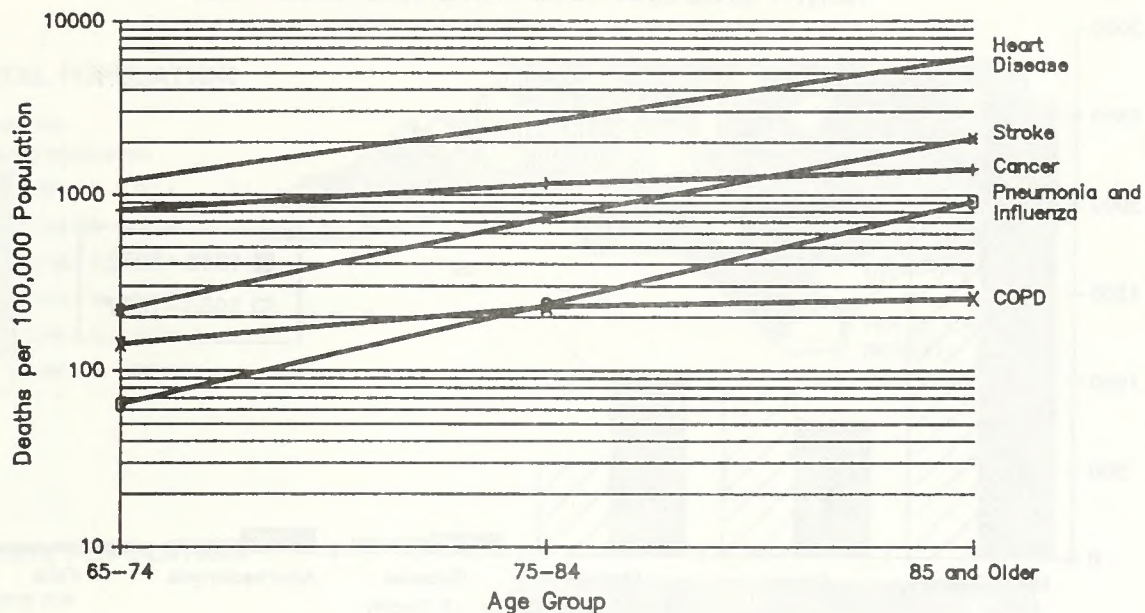
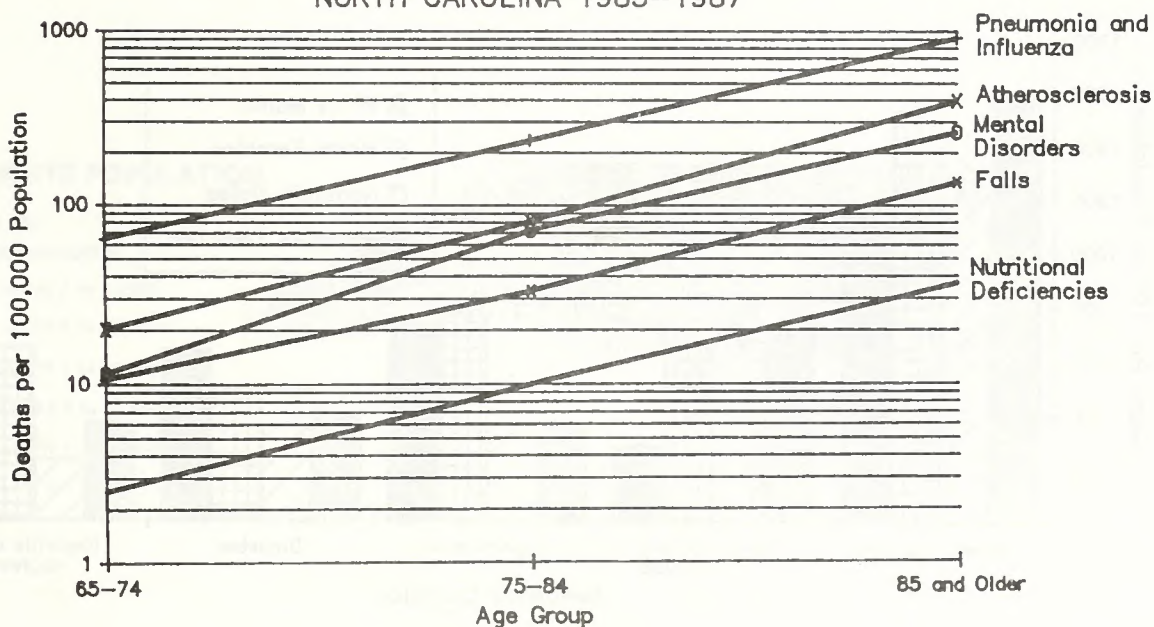
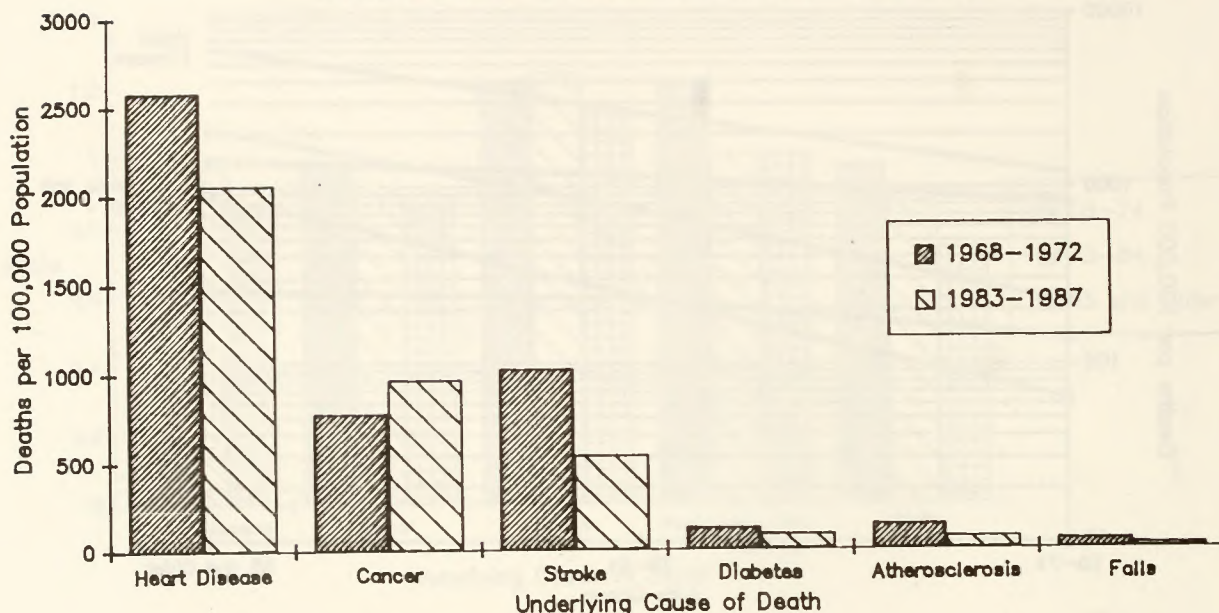


Figure 4
DEATH RATES FOR SELECTED CAUSES*
AMONG AGE GROUPS 65 AND OLDER
NORTH CAROLINA 1983-1987



*Causes for which the death rate was more than 1,000 percent higher at ages 85 and older than at ages 65-74.

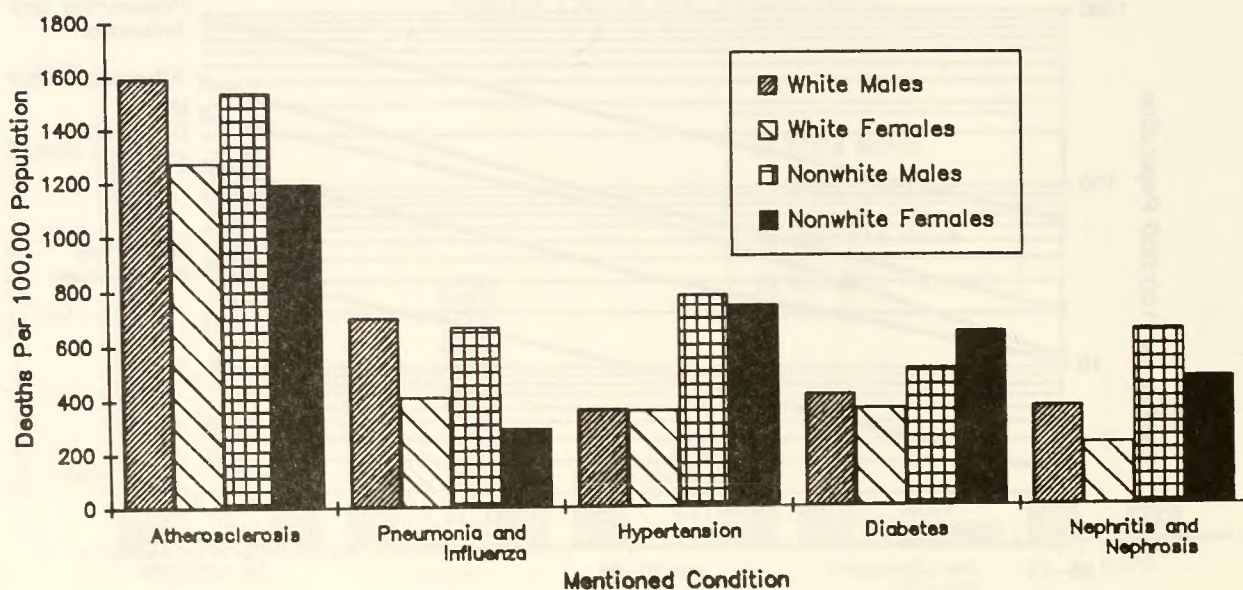
Figure 5
DEATH RATES FOR SELECTED LEADING CAUSES*
AMONG THE POPULATION 65 AND OLDER
NORTH CAROLINA 1968-1972 AND 1983-1987



*These six causes accounted for 80.5 and 75.5 percent of deaths to residents 65 and older in 1968-72 and 1983-87 respectively.

Figure 6 on next page.

Figure 7
DEATH RATES FOR LEADING MENTIONED CONDITIONS*
AMONG THE POPULATION 65 AND OLDER BY RACE AND SEX
NORTH CAROLINA 1983-1987



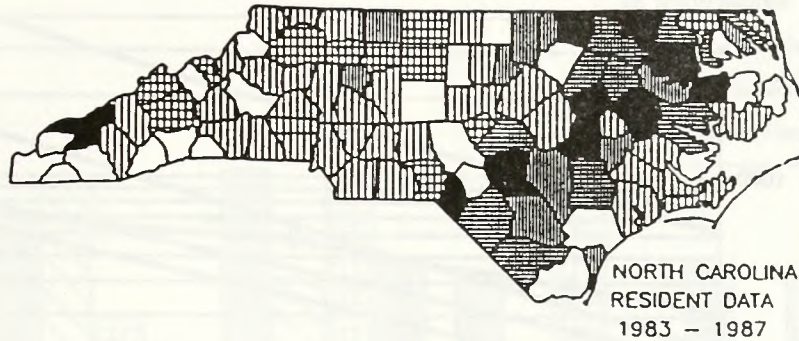
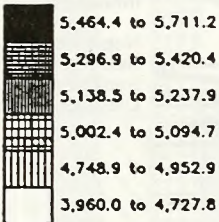
*Natural causes.

Figure 6

DEATH RATES FOR POPULATION 65 AND OLDER

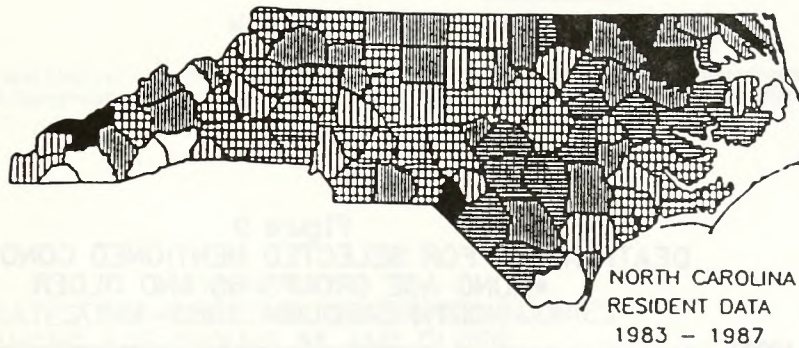
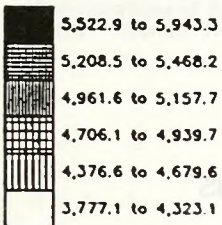
TOTAL POPULATION

DEATHS PER
100,000 POPULATION



WHITE POPULATION

DEATHS PER
100,000 POPULATION



NONWHITE POPULATION

DEATHS PER
100,000 POPULATION

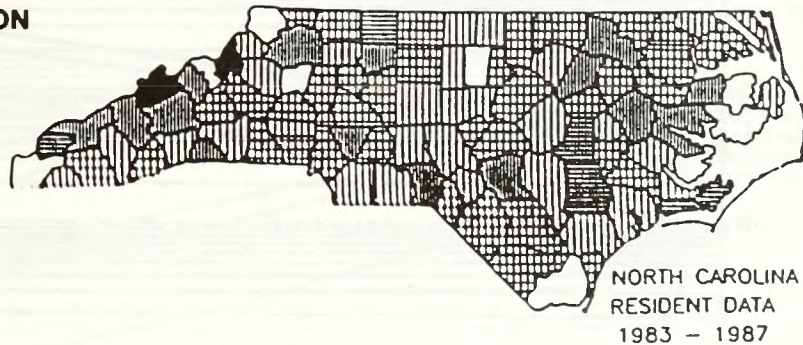
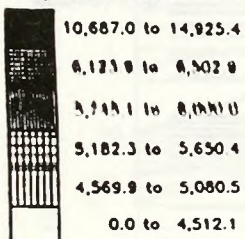
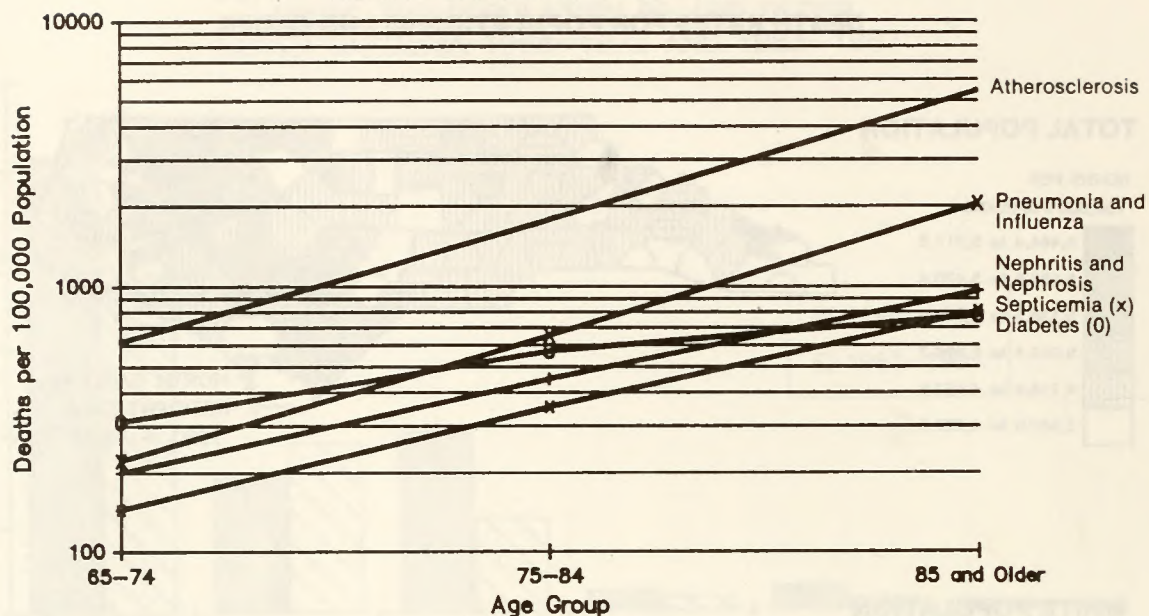
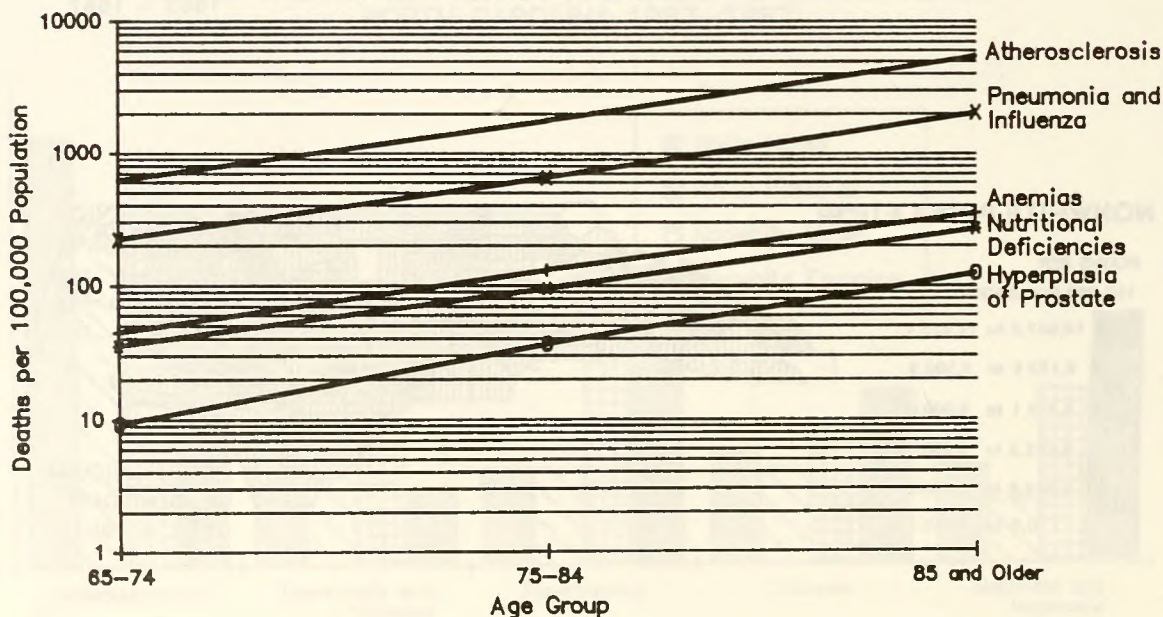


Figure 8
DEATH RATES FOR LEADING MENTIONED CONDITIONS*
AMONG AGE GROUPS 65 AND OLDER
NORTH CAROLINA 1983-1987



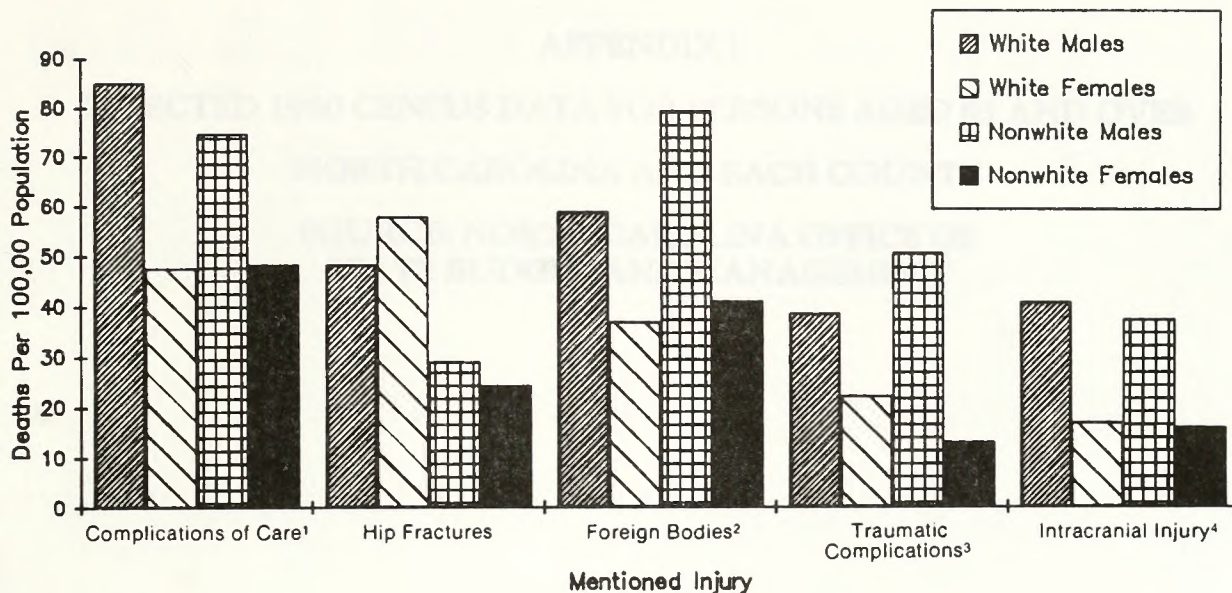
*Natural causes.

Figure 9
DEATH RATES FOR SELECTED MENTIONED CONDITIONS*
AMONG AGE GROUPS 65 AND OLDER
NORTH CAROLINA 1983-1987



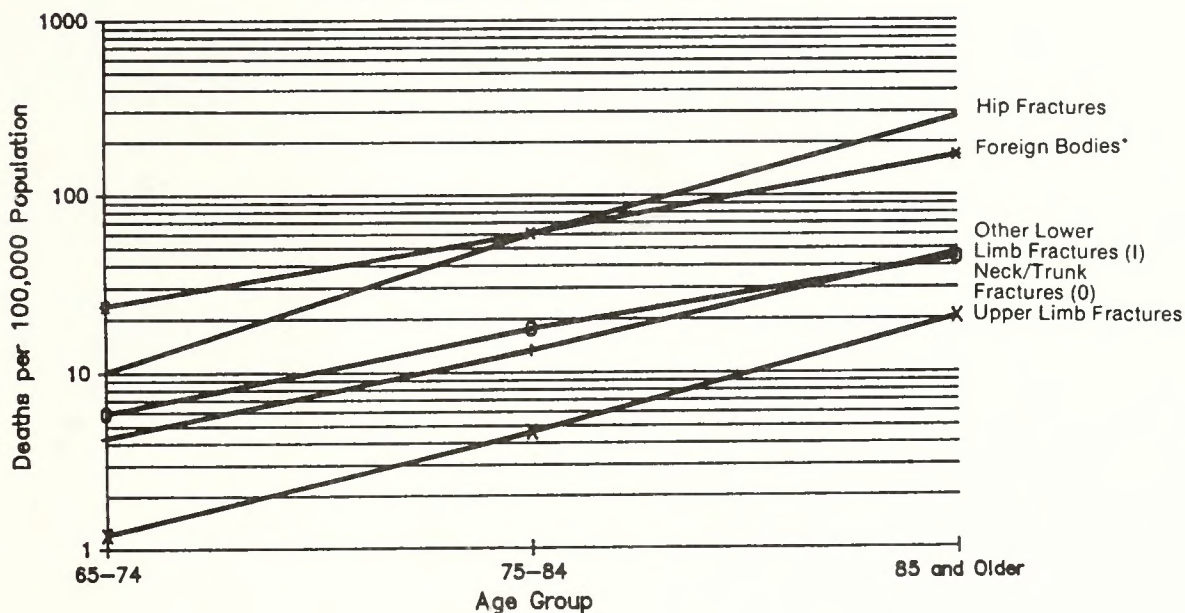
*Conditions (natural causes) for which the death rate was more than 600 percent higher at ages 85 and older than at ages 65-74.

Figure 10
DEATH RATES FOR LEADING TYPES OF MENTIONED INJURIES
AMONG THE POPULATION 65 AND OLDER BY RACE AND SEX
NORTH CAROLINA 1983-1987



¹Complications of Surgical and Medical Care Not Elsewhere Classified. ²Effects of Foreign Body Entering through Orifice. ³Certain Traumatic Complications and Unspecified Injuries. ⁴Intracranial Injury except Skull Fracture.

Figure 11
DEATH RATES FOR SELECTED MENTIONED INJURIES
AMONG AGE GROUPS 65 AND OLDER
NORTH CAROLINA 1983-1987



*Effects of Foreign Body Entering through Orifice.

APPENDIX I

SELECTED 1980 CENSUS DATA FOR PERSONS AGED 65 AND OVER

NORTH CAROLINA AND EACH COUNTY

**SOURCE: NORTH CAROLINA OFFICE OF
STATE BUDGET AND MANAGEMENT**

Selected 1980 Census Data For Persons Aged 65 and Over, By County

Area	Persons Age 65+	Percent Age 65+	Persons 65+ in Households		Housing Units		Median Income 65+		% Persons 65+ Below Poverty		
			Diff. House in 1975	Total No. Persons	% in Families live alone	Hholder or Spouse Number	% Owner	Family Hholder		Unrelated Indiv. Male Female	
N. C.	601,831	10.2%	25,072	573,771	70.7%	402,849	75.7%	\$10,145	\$3,887	\$3,747	23.9%
ALAMANCE	11,354	11.4	196	11,035	71.3	7,581	79.3	11,165	4,544	3,694	19.1
ALEXANDER	2,252	9.0	11	2,206	75.2	1,494	86.1	9,265	3,885	2,919	26.3
ALLEGHANY	1,445	15.1	73	1,386	69.8	935	84.3	7,929	2,651	2,761	36.8
ANSON	3,321	12.9	0	3,174	71.2	2,238	76.1	8,674	3,452	2,936	31.6
ASHE	3,220	14.4	90	3,156	74.3	2,174	85.6	6,569	2,794	2,800	41.2
AVERY	1,610	11.2	25	1,583	67.1	1,028	89.4	8,105	2,750	3,112	30.4
BEAUFORT	5,176	12.8	208	5,035	69.2	3,386	76.8	9,622	3,561	3,313	31.9
BERTIE	2,694	12.8	37	2,694	71.9	1,914	76.2	7,645	3,452	3,004	39.2
BLADEN	3,317	10.9	119	3,264	71.9	2,292	83.2	7,645	2,806	3,191	35.6
BRUNSWICK	3,835	10.7	188	3,739	70.9	2,753	84.6	8,745	5,000	3,229	25.4
BUNCOMBE	22,061	13.7	1,191	20,853	68.9	14,589	75.3	10,774	3,886	3,886	22.0
BURKE	7,235	10.0	236	6,601	69.7	4,618	86.1	9,933	3,567	3,673	22.8
CABARRUS	10,093	11.8	281	9,710	72.5	6,958	74.7	11,124	5,060	3,834	16.0
CALDWELL	6,358	9.4	130	6,151	72.2	4,366	82.5	9,077	3,880	3,449	24.0
CAMDEN	693	11.9	0	693	72.4	562	82.4	8,821	2,707	4,182	28.3
CARTERET	4,759	11.6	644	4,381	71.0	3,181	85.9	10,793	5,014	3,772	22.3
CASWELL	2,113	10.2	26	2,062	73.6	1,494	75.2	8,828	3,183	3,080	27.9
CATAWBA	10,079	9.6	253	9,523	74.7	6,601	85.0	11,555	4,584	3,830	16.4
CHATHAM	3,783	11.3	161	3,570	72.6	2,496	82.7	10,618	3,833	3,927	20.6
CHEROKEE	2,861	15.1	212	2,757	76.2	1,996	79.1	7,233	5,036	2,989	31.9
CHOWAN	1,782	14.2	151	1,644	75.9	1,128	75.2	8,679	3,750	2,904	29.5
CLAY	1,094	16.5	71	1,094	76.9	736	83.4	7,668	2,683	2,842	35.2
CLEVELAND	9,064	10.9	209	8,611	72.8	6,070	77.2	10,463	3,338	3,403	26.0
COLUMBUS	5,541	10.9	40	5,362	69.8	3,806	77.2	8,011	3,462	3,362	37.4
CRAVEN	5,441	7.7	300	5,334	68.1	3,733	76.2	10,908	2,783	3,434	27.3
CUMBERLAND	11,002	4.5	587	10,469	69.7	7,279	75.6	9,873	3,761	3,533	26.0
CURRITUCK	1,303	11.8	68	1,303	69.0	1,014	84.0	9,510	4,688	3,736	28.7
DARE	1,712	12.8	191	1,712	74.5	1,166	92.4	12,620	7,394	4,852	15.0
DAVIDSON	10,994	9.7	198	10,410	73.1	7,329	81.1	9,946	3,629	3,725	20.1
DAVIE	2,510	10.2	55	2,420	73.1	1,579	80.6	8,927	4,103	3,828	24.5
DUPLIN	4,753	11.6	66	4,592	68.3	3,271	77.7	7,408	2,734	3,486	36.6
DURHAM	15,746	10.3	641	14,763	66.9	10,666	66.0	12,169	4,281	3,914	19.2
EDGECOMBE	5,853	10.5	37	5,604	70.6	3,799	64.8	9,886	4,097	3,522	26.6
FORSYTH	24,963	10.2	1,139	23,245	68.2	16,543	73.4	11,236	4,482	3,969	19.2
FRANKLIN	3,948	13.1	59	3,706	68.8	2,536	71.6	8,359	3,029	3,532	34.1
GASTON	16,554	10.2	409	15,970	73.8	10,564	77.4	11,181	4,481	3,712	18.2
GATES	1,218	13.7	13	1,218	74.0	875	84.0	10,041	3,333	3,583	26.9
GRAHAM	906	12.6	28	906	80.2	631	87.5	9,018	4,611	2,500	30.7
GRANVILLE	3,828	11.2	182	3,529	71.9	2,548	70.1	9,236	2,960	3,889	27.9
GREENE	1,531	9.5	49	1,462	68.7	1,099	70.4	8,864	3,100	4,654	28.8
GUILFORD	31,814	10.0	1,450	29,475	68.7	20,176	71.9	12,492	4,304	4,539	17.7
HALIFAX	6,717	12.1	115	6,460	68.9	4,805	69.2	7,943	3,909	3,539	32.4
HARNETT	6,014	10.1	115	5,627	70.3	4,039	73.8	8,916	3,405	3,664	28.8
HAYWOOD	6,287	13.5	307	5,924	74.4	4,132	80.7	9,101	3,500	3,788	23.7
HENDERSON	10,344	17.7	1,877	9,976	73.0	6,805	82.6	12,798	4,837	4,507	15.5
HERTFORD	2,819	12.1	120	2,647	72.2	1,883	70.3	8,554	2,622	2,688	37.2
HOKE	1,597	7.8	84	1,511	73.5	1,105	81.9	10,257	3,615	4,500	29.8
HYDE	886	15.1	17	886	70.0	532	88.2	5,353	2,915	4,412	38.1
IREDELL	9,399	11.4	235	9,034	70.2	6,538	82.9	10,322	3,450	3,929	20.7
JACKSON	2,821	10.9	109	2,665	75.7	1,777	83.5	9,455	3,397	2,860	29.1

JOHNSTON	7,663	10.9	120	7,426	69.2	30.3	5,297	68.3	8,028	3,404	3,182	33.6
JONES	1,134	11.7	9	1,134	71.8	27.3	830	76.1	8,369	2,879	3,212	34.0
LEE	3,653	9.9	193	3,436	70.5	27.9	2,578	73.8	10,511	5,000	3,294	25.0
LENOIR	6,227	10.4	206	5,894	66.0	31.9	4,231	62.1	9,605	3,814	3,572	27.2
LINCOLN	4,098	9.7	162	3,983	77.1	22.2	2,713	80.7	10,222	2,980	3,219	21.2
MCDOWELL	4,082	11.6	99	3,892	73.6	25.7	2,708	83.2	8,775	3,576	3,482	26.4
MACON	3,679	18.2	352	3,645	76.0	22.4	2,422	85.7	8,785	4,529	3,493	28.7
*MADISON	2,426	14.4	40	2,417	74.4	24.9	1,779	77.1	7,292	2,970	2,654	40.8
MARTIN	2,982	11.5	35	2,854	69.0	28.7	2,094	71.7	8,923	3,500	3,266	31.8
*MECKLENBURG	33,731	8.3	2,096	31,983	70.1	27.5	21,933	69.2	13,563	4,862	4,695	15.6
MITCHELL	2,148	14.9	68	2,143	78.3	21.7	1,394	82.4	8,721	2,720	2,825	28.6
MONTGOMERY	2,672	11.9	46	2,538	67.8	30.4	1,720	79.2	8,974	3,411	3,250	27.8
MOORE	7,429	14.7	1,031	7,041	72.0	26.3	5,126	82.6	13,056	4,170	3,953	19.5
NASH	7,044	10.5	178	6,919	70.9	27.8	4,934	64.2	9,518	4,069	3,954	26.4
*NEW HANOVER	10,395	10.0	813	9,904	66.3	32.0	7,265	69.4	11,170	4,306	4,135	20.3
NORTHAMPTON	2,964	13.1	119	2,819	71.3	27.4	1,908	79.8	9,019	4,139	3,489	30.4
*ONSLow	4,131	3.7	238	3,916	70.3	28.0	2,833	77.3	8,919	4,461	3,085	29.0
*ORANGE	5,744	7.5	652	5,490	72.6	25.9	3,625	80.2	13,929	5,115	5,593	14.6
PAMLICO	1,424	13.7	99	1,424	69.0	30.7	1,035	88.4	8,333	4,071	3,045	35.7
PASQUOTANK	3,287	11.5	258	3,164	67.2	30.2	2,140	74.9	9,675	2,987	3,627	25.7
PENDER	2,659	12.0	65	2,542	72.7	26.2	1,874	85.1	8,261	3,563	2,888	31.1
PERQUIMANS	1,510	15.9	75	1,437	74.6	23.2	973	81.2	7,346	2,868	3,571	31.0
PERSON	3,351	11.5	77	3,227	71.8	26.2	2,314	73.6	8,903	4,429	3,830	24.5
PITT	7,721	8.6	189	7,435	67.9	29.8	5,276	64.7	9,399	3,616	3,883	30.2
POLK	2,664	20.5	350	2,542	72.6	26.1	1,848	80.8	14,570	3,792	5,069	15.7
*RANDOLPH	9,221	10.1	117	8,960	73.3	25.7	6,089	84.4	10,045	4,395	3,366	23.1
RICHMOND	5,244	11.5	154	5,013	65.4	34.0	3,840	79.1	8,888	4,277	3,588	24.6
ROBESON	9,370	9.2	245	8,950	70.7	27.4	6,855	72.0	8,734	3,255	3,180	32.6
ROCKINGHAM	9,576	11.5	107	9,339	71.1	27.7	6,363	79.1	10,211	3,975	3,687	23.9
*ROWAN	13,039	13.1	344	12,212	71.2	27.2	8,595	81.1	10,942	4,841	4,269	15.1
RUTHERFORD	7,224	13.4	157	6,857	71.8	27.5	4,635	76.9	8,750	4,040	3,251	25.9
SAMPSON	5,933	11.9	185	5,785	72.1	26.4	3,920	73.1	8,628	3,556	3,426	30.4
SCOTLAND	2,949	9.1	81	2,827	68.7	30.9	2,190	63.2	8,898	3,293	3,700	27.8
STANLY	5,993	12.4	108	5,808	70.2	28.7	4,214	82.5	10,254	3,507	3,636	22.8
*STOKES	3,287	9.9	83	3,205	73.7	25.5	2,598	81.2	8,326	3,441	3,194	29.7
SURRY	7,357	12.4	249	6,954	71.1	28.2	4,983	81.5	9,230	4,371	3,372	25.5
SWAIN	1,493	14.5	59	1,359	78.0	21.9	986	76.3	6,848	3,469	3,073	33.6
TRANSYLVANIA	2,978	12.7	292	2,906	76.9	23.0	2,058	82.9	11,184	3,978	3,468	23.7
TYRRELL	597	15.0	22	597	71.7	25.0	472	84.5	8,906	2,638	3,375	33.0
*UNION	6,218	8.8	200	5,994	72.7	26.0	4,216	78.8	9,939	3,619	3,644	20.9
VANCE	4,312	11.7	115	3,997	72.8	26.0	2,764	65.4	8,763	3,593	3,607	27.9
*WAKE	22,086	7.3	1,099	20,829	68.3	28.7	14,689	67.6	13,046	4,559	4,986	17.7
WARREN	2,389	14.7	130	2,317	73.5	26.1	1,550	73.9	8,371	2,966	2,892	32.2
WASHINGTON	1,529	10.3	22	1,526	73.1	24.6	1,075	82.0	8,864	2,885	3,217	28.7
WATAUGA	3,030	9.6	119	2,818	74.9	23.3	1,908	85.0	9,564	3,357	3,261	31.0
WAYNE	8,308	8.6	286	7,742	64.6	32.0	5,314	66.2	8,452	3,705	3,678	31.8
WILKES	6,103	10.4	90	5,909	72.4	26.3	4,200	82.0	7,599	3,065	3,017	35.2
WILSON	6,431	10.2	131	6,027	68.0	29.1	4,257	61.2	10,317	3,643	3,624	27.2
*YADKIN	3,538	12.4	29	3,421	71.6	27.3	2,385	83.3	8,500	3,458	3,273	31.3
YANCEY	2,108	14.1	75	2,082	77.9	21.0	1,333	81.5	7,153	3,391	2,805	36.6

* Counties which were part of a Standard Metropolitan Statistical Area (SMSA) at the time of the 1980 Census of Population and Housing.

INTERNATIONAL CLASSIFICATION OF DISEASES (ICD) CODES
(Ninth Revision) USED IN THIS REPORT

APPENDIX II

INTERNATIONAL CLASSIFICATION OF DISEASES (ICD) CODES

(Ninth Revision) USED IN THIS REPORT

**INTERNATIONAL CLASSIFICATION OF DISEASES CODES
(NINTH REVISION) FOR UNDERLYING CAUSES OF DEATH AND
NATURAL-CAUSE MENTIONED CONDITIONS**

CAUSE OF DEATH	ICD CODES*
Heart Disease	390-398, 402, 404-429
Hypertensive Heart Disease	402
Acute Myocardial Infarction	410
Other Forms of Ischemic Heart Disease	411-414
Hypertension with or without Renal Disease	401, 403
Cerebrovascular Disease	430-438
Atherosclerosis	440
Cancer	140-208
Esophagus	150
Stomach	151
Colon, Rectum and Anus	153, 154
Pancreas	157
Trachea, Bronchus, and Lung	162
Female Breast	174
Cervix Uteri	180
Ovary and Other Uterine Adnexa	183
Prostate	185
Leukemia	204-208
Septicemia	038
Other Infectious and Parasitic Diseases	001-037, 039-139
Diabetes Mellitus	250
Nutritional Deficiencies	260-269
Anemias	280-285
Mental Disorders	290-319
Alcohol-related Conditions	291, 303, 305.0, 571, 790.3, E860
Chronic Liver Disease and Cirrhosis	571
Pneumonia and Influenza	480-487
Chronic Obstructive Pulmonary Disease and Allied Conditions	490-496
Ulcer of Stomach and Duodenum	531-533
Nephritis, Nephrotic Syndrome, and Nephrosis	580-589
Other Genitourinary	590-629
Arthritis	710-719
Injury and Poisoning	E800-999
Motor Vehicle Accidents	E810-825
Falls	E880-888
Suicide	E950-959
Homicide	E960-978

*Applies to Ninth Revision data of Tables 6-20 and Tables of Appendix III.

**INTERNATIONAL CLASSIFICATION OF DISEASES CODES
(NINTH REVISION) FOR NATURE OF INJURIES**

NATURE OF INJURY	ICD N-CODES*
Skull Fractures	800-804
Neck/Trunk Fractures	805-809
Upper Limb Fractures	810-819
Hip Fractures	820
Other Lower Limb Fractures	821-829
Intracranial Injury except Skull Fracture	850-854
Internal Injury of Chest, Abdomen, Pelvis	860-869
Open Wound of Head, Neck, Trunk	870-879
Effects of Foreign Body Entering Through Orifice	930-939
Burns	940-949
Certain Traumatic Complications and Unspecified Injuries	958-959
Poisoning by Drugs, Medicinal, and Biological Substances	960-979
Toxic Effects of Substances Chiefly Nonmedicinal As to Source	980-989
Complications of Surgical and Medical Care Not Elsewhere Classified	996-999

*Applies to data of Tables 21-24.

APPENDIX III
NUMBERS OF DEATHS FOR RACE-SEX AND
AGE GROUPS 65 AND OLDER:
SELECTED UNDERLYING CAUSES
NORTH CAROLINA 1983-87

Leading Causes of Death Among the Elderly, Ages 65 and Over
North Carolina 1983-1987
Number of Deaths

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	72,887	28,069	30,635	6,611	7,572
Hypertensive Heart Disease	2,395	499	990	363	543
Acute Myocardial Infarction	28,407	12,435	11,271	2,245	2,456
Other Forms of Ischemic Heart Disease	21,216	8,394	8,963	1,842	2,017
Hypertension with or without Renal Disease	969	243	313	161	252
Cerebrovascular Disease	19,101	5,417	9,302	1,801	2,581
Atherosclerosis	2,528	751	1,270	218	289
Cancer	34,299	14,570	12,117	4,524	3,088
Esophagus	551	235	114	165	37
Stomach	1,002	340	294	234	134
Colon, Rectum, and Anus	4,184	1,503	1,750	369	562
Pancreas	2,017	734	771	233	279
Trachea, Bronchus, and Lung	8,791	5,364	1,904	1,272	251
Female Breast	2,302		1,881		421
Cervix Uteri	310		191		119
Ovary and Other Uterine Adnexa	791		656		135
Prostate	3,141	1,952		1,189	
Leukemia	1,188	481	507	98	102
Septicemia	2,000	599	782	270	349
Other Infectious and Parasitic Diseases	619	211	217	106	85
Diabetes Mellitus	3,093	807	1,279	327	680
Nutritional Deficiencies	275	73	122	38	42
Anemias	315	84	148	38	45
Mental Disorders	1,830	505	997	124	204
Alcohol-related Conditions	1,192	554	353	189	96
Chronic Liver Disease and Cirrhosis	931	427	336	87	81
Pneumonia and Influenza	6,736	2,687	2,919	599	531
Chronic Obstructive Pulmonary Disease and Allied Conditions	6,293	3,707	1,870	565	151
Ulcer of Stomach and Duodenum	614	219	291	54	50
Nephritis, Nephrotic Syndrome, and Nephrosis	2,087	632	721	323	411
Other Genitourinary	2,078	592	950	265	271
Arthritis	363	90	214	17	42
Injury and Poisoning	4,595	2,079	1,560	582	374
Motor Vehicle Accidents	875	402	295	123	55
Falls	1,000	355	521	73	51
Suicide	733	548	126	50	9
Homicide	184	65	49	48	22
Total deaths, all causes	175,950	67,179	72,055	18,137	18,579

Leading Causes of Death Among the Elderly, Ages 65-74
North Carolina 1983-1987
Number of Deaths

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	25,775	12,497	7,304	3,242	2,732
Hypertensive Heart Disease	850	206	229	208	207
Acute Myocardial Infarction	11,924	6,170	3,518	1,198	1,038
Other Forms of Ischemic Heart Disease	6,903	3,609	1,784	847	663
Hypertension with or without Renal Disease	379	108	83	85	103
Cerebrovascular Disease	4,740	1,634	1,569	771	766
Atherosclerosis	437	187	129	68	53
Cancer	17,637	8,010	5,576	2,518	1,533
Esophagus	350	153	59	115	23
Stomach	434	148	111	128	47
Colon, Rectum, and Anus	1,814	760	630	184	240
Pancreas	992	391	323	133	145
Trachea, Bronchus, and Lung	5,654	3,482	1,147	872	153
Female Breast	1,229		987		242
Cervix Uteri	156		92		64
Ovary and Other Uterine Adnexa	418		348		70
Prostate	1,189	702		487	
Leukemia	479	214	175	54	36
Septicemia	620	242	177	106	95
Other Infectious and Parasitic Diseases	279	96	86	59	38
Diabetes Mellitus	1,352	403	446	168	335
Nutritional Deficiencies	55	20	13	14	8
Anemias	84	30	26	16	12
Mental Disorders	246	81	94	39	32
Alcohol-related Conditions	866	419	215	159	73
Chronic Liver Disease and Cirrhosis	640	308	201	71	60
Pneumonia and Influenza	1,396	709	358	226	103
Chronic Obstructive Pulmonary Disease and Allied Conditions	3,043	1,837	831	299	76
Ulcer of Stomach and Duodenum	219	101	73	28	17
Nephritis, Nephrotic Syndrome, and Nephrosis	666	209	161	133	163
Other Genitourinary	500	151	155	104	90
Arthritis	190	55	100	12	23
Injury and Poisoning	2,018	1,012	526	333	147
Motor Vehicle Accidents	477	231	145	74	27
Falls	229	104	87	33	5
Suicide	445	325	83	31	6
Homicide	110	46	23	25	16
Total deaths, all causes	65,402	29,945	19,550	9,014	6,893

Leading Causes of Death Among the Elderly, Ages 75-84
North Carolina 1983-1987
Number of Deaths

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	28,310	10,808	12,139	2,389	2,974
Hypertensive Heart Disease	950	199	408	118	225
Acute Myocardial Infarction	11,352	4,778	4,846	778	950
Other Forms of Ischemic Heart Disease	8,014	3,187	3,339	681	807
Hypertension with or without Renal Disease	363	78	131	54	100
Cerebrovascular Disease	7,929	2,372	3,690	761	1,106
Atherosclerosis	875	267	412	92	104
Cancer	12,396	5,138	4,555	1,600	1,103
Esophagus	152	65	30	45	12
Stomach	400	141	124	83	52
Colon, Rectum, and Anus	1,614	547	709	137	221
Pancreas	770	275	317	84	94
Trachea, Bronchus, and Lung	2,663	1,633	602	353	75
Female Breast	796		664		132
Cervix Uteri	121		82		39
Ovary and Other Uterine Adnexa	274		227		47
Prostate	1,406	873		533	
Leukemia	499	201	211	36	51
Septicemia	824	246	322	106	150
Other Infectious and Parasitic Diseases	239	84	82	35	38
Diabetes Mellitus	1,257	318	553	133	253
Nutritional Deficiencies	108	31	47	14	16
Anemias	139	40	67	12	20
Mental Disorders	780	245	383	54	98
Alcohol-related Conditions	285	126	112	25	22
Chronic Liver Disease and Cirrhosis	252	110	109	13	20
Pneumonia and Influenza	2,532	1,074	990	237	231
Chronic Obstructive Pulmonary Disease and Allied Conditions	2,468	1,485	711	222	50
Ulcer of Stomach and Duodenum	246	79	128	18	21
Nephritis, Nephrotic Syndrome, and Nephrosis	865	280	300	125	160
Other Genitourinary	840	265	367	106	102
Arthritis	133	29	85	4	15
Injury and Poisoning	1,648	756	568	184	140
Motor Vehicle Accidents	320	131	121	41	27
Falls	355	138	178	22	17
Suicide	244	188	37	16	3
Homicide	57	14	20	17	6
Total deaths, all causes	67,905	25,871	28,054	6,680	7,300

Leading Causes of Death Among the Elderly, Ages 85 and Over
North Carolina 1983-1987
Number of Deaths

Causes of Death	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Heart Disease	18,802	4,764	11,192	980	1,866
Hypertensive Heart Disease	595	94	353	37	111
Acute Myocardial Infarction	5,131	1,487	2,907	269	468
Other Forms of Ischemic Heart Disease	6,299	1,598	3,840	314	547
Hypertension with or without Renal Disease	227	57	99	22	49
Cerebrovascular Disease	6,432	1,411	4,043	269	709
Atherosclerosis	1,216	297	729	58	132
Cancer	4,266	1,422	1,986	406	452
Esophagus	49	17	25	5	2
Stomach	168	51	59	23	35
Colon, Rectum, and Anus	756	196	411	48	101
Pancreas	255	68	131	16	40
Trachea, Bronchus, and Lung	474	249	155	47	23
Female Breast	277		230		47
Cervix Uteri	33		17		16
Ovary and Other Uterine Adnexa	99		81		18
Prostate	546	377		169	
Leukemia	210	66	121	8	15
Septicemia	556	111	283	58	104
Other Infectious and Parasitic Diseases	101	31	49	12	9
Diabetes Mellitus	484	86	280	26	92
Nutritional Deficiencies	112	22	62	10	18
Anemias	92	14	55	10	13
Mental Disorders	804	179	520	31	74
Alcohol-related Conditions	41	9	26	5	1
Chronic Liver Disease and Cirrhosis	39	9	26	3	1
Pneumonia and Influenza	2,808	904	1,571	136	197
Chronic Obstructive Pulmonary Disease and Allied Conditions	782	385	328	44	25
Ulcer of Stomach and Duodenum	149	39	90	8	12
Nephritis, Nephrotic Syndrome, and Nephrosis	556	143	260	65	88
Other Genitourinary	738	176	428	55	79
Arthritis	40	6	29	1	4
Injury and Poisoning	929	311	466	65	87
Motor Vehicle Accidents	78	40	29	8	1
Falls	416	113	256	18	29
Suicide	44	35	6	3	0
Homicide	17	5	6	6	0
Total deaths, all causes	42,643	11,363	24,451	2,443	4,386

APPENDIX IV
NUMBERS OF DEATHS AND DEATH RATES
FOR RACE-SEX AND AGE GROUPS 65 AND OLDER:
SELECTED UNDERLYING CAUSES

NORTH CAROLINA 1968-72

Leading Causes of Death Among the Elderly, Ages 65 and Over
North Carolina 1968-72
Number of Deaths

Causes of Death	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Heart Disease	53,271	22,255	20,523	5,317	5,176
Cerebrovascular Disease	21,147	7,147	9,191	2,174	2,635
Atherosclerosis	2,954	968	1,416	284	286
Cancer	16,069	6,966	5,799	1,901	1,403
Diabetes Mellitus	2,574	769	1,069	216	520
Chronic Liver Disease and Cirrhosis	480	258	151	41	30
Motor Vehicle Accidents	882	442	232	152	56
Falls	1,131	406	606	53	66
Suicide	342	284	37	21	0
Homicide	135	55	21	47	12
Total deaths, all causes	120,751	48,956	46,627	12,834	12,334

Leading Causes of Death Among the Elderly, Ages 65 and Over
North Carolina 1968-1972
Deaths per 100,000 Population

Causes of Death	Total Residents	White Males	White Females	Nonwhite Males	Nonwhite Females
Heart Disease	2,585.7	3,311.1	2,089.2	3,079.7	2,220.7
Cerebrovascular Disease	1,026.5	1,063.3	935.6	1,259.2	1,130.5
Atherosclerosis	143.4	144.0	144.1	164.5	122.7
Cancer	780.0	1,036.4	590.3	1,101.1	601.9
Diabetes Mellitus	124.9	114.4	108.8	125.1	223.1
Chronic Liver Disease and Cirrhosis	23.3	38.4	15.4	23.7	12.9
Motor Vehicle Accidents	42.8	65.8	23.6	88.0	24.0
Falls	54.9	60.4	61.7	30.7	28.3
Suicide	16.6	42.3	3.8	12.2	0.0*
Homicide	6.6	8.2	2.1	27.2	5.1*
Total deaths, all causes	5,861.2	7,283.7	4,746.6	7,433.8	5,291.7

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

Leading Causes of Death Among the Elderly, Ages 65-74
North Carolina 1968-1972
Number of Deaths

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	22,192	10,400	6,210	2,981	2,601
Cerebrovascular Disease	7,138	2,517	2,129	1,204	1,288
Atherosclerosis	551	181	168	101	101
Cancer	8,902	3,985	2,824	1,218	875
Diabetes Mellitus	1,314	375	461	148	330
Chronic Liver Disease and Cirrhosis	338	188	96	29	25
Motor Vehicle Accidents	548	247	151	111	39
Falls	285	125	110	30	20
Suicide	232	189	28	15	0
Homicide	103	44	11	40	8
Total deaths, all causes	50,925	22,642	14,557	7,391	6,335

Leading Causes of Death Among the Elderly, Ages 65-74
North Carolina 1968-1972
Deaths per 100,000 Population

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	1,651.6	2,304.7	1,007.2	2,491.0	1,665.2
Cerebrovascular Disease	531.2	557.8	345.3	1,006.1	824.6
Atherosclerosis	41.0	40.1	27.2	84.4	64.7
Cancer	662.5	883.1	458.0	1,017.8	560.2
Diabetes Mellitus	97.8	83.1	74.8	123.7	211.3
Chronic Liver Disease and Cirrhosis	25.2	41.7	15.6	24.2	16.0
Motor Vehicle Accidents	40.8	54.7	24.5	92.8	25.0
Falls	21.2	27.7	17.8	25.1	12.8
Suicide	17.3	41.9	4.5	12.5*	0.0*
Homicide	7.7	9.8	1.8*	33.4	5.1*
Total deaths, all causes	3,789.9	5,017.6	2,360.9	6,176.2	4,055.8

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

Leading Causes of Death Among the Elderly, Ages 75-84
North Carolina 1968-1972
Number of Deaths

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	21,146	8,635	8,977	1,755	1,779
Cerebrovascular Disease	8,926	3,079	4,176	730	941
Atherosclerosis	1,170	427	536	105	102
Cancer	5,609	2,383	2,225	584	417
Diabetes Mellitus	999	321	470	54	154
Chronic Liver Disease and Cirrhosis	128	65	48	11	4
Motor Vehicle Accidents	281	166	68	34	13
Falls	452	137	271	15	29
Suicide	93	78	9	6	0
Homicide	27	9	10	6	2
Total deaths, all causes	47,130	18,875	19,962	4,096	4,197

Leading Causes of Death Among the Elderly, Ages 75-84
North Carolina 1968-1972
Deaths per 100,000 Population

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	3,615.4	4,647.5	3,033.4	4,081.4	2,957.9
Cerebrovascular Disease	1,526.1	1,657.2	1,411.1	1,697.7	1,564.6
Atherosclerosis	200.0	229.8	181.1	244.2	169.6
Cancer	959.0	1,282.6	751.8	1,358.1	693.3
Diabetes Mellitus	170.8	172.8	158.8	125.6	256.0
Chronic Liver Disease and Cirrhosis	21.9	35.0	16.2	25.6*	6.7*
Motor Vehicle Accidents	48.0	89.3	23.0	79.1	21.6*
Falls	77.3	73.7	91.6	34.9*	48.2
Suicide	15.9	42.0	3.0*	14.0*	0.0*
Homicide	4.6	4.8*	3.4*	14.0*	3.3*
Total deaths, all causes	8,058.0	10,158.8	6,745.3	9,525.6	6,978.1

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

Leading Causes of Death Among the Elderly, Ages 85 and Over
North Carolina 1968-1972
Number of Deaths

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	9,933	3,220	5,336	581	796
Cerebrovascular Disease	5,083	1,551	2,886	240	406
Atherosclerosis	1,233	360	712	78	83
Cancer	1,558	598	750	99	111
Diabetes Mellitus	261	73	138	14	36
Chronic Liver Disease and Cirrhosis	14	5	7	1	1
Motor Vehicle Accidents	53	29	13	7	4
Falls	394	144	225	8	17
Suicide	17	17	0	0	0
Homicide	5	2	0	1	2
Total deaths, all causes	22,696	7,439	12,108	1,347	1,802

Leading Causes of Death Among the Elderly, Ages 85 and Over
North Carolina 1968-1972
Deaths per 100,000 Population

Causes of Death	Total Residents	White		Nonwhite	
		Males	Females	Males	Females
Heart Disease	7,547.0	9,177.7	7,643.1	5,824.6	4,755.1
Cerebrovascular Disease	3,862.0	4,420.7	4,133.8	2,406.0	2,425.3
Atherosclerosis	936.8	1,026.1	1,019.8	782.0	495.8
Cancer	1,183.8	1,704.4	1,074.3	992.5	663.1
Diabetes Mellitus	198.3	208.1	197.7	140.4*	215.1
Chronic Liver Disease and Cirrhosis	10.6*	14.3*	10.0*	10.0*	6.0*
Motor Vehicle Accidents	40.3	82.7	18.6*	70.2*	23.9*
Falls	299.4	410.4	322.3	80.2*	101.6*
Suicide	12.9*	48.5*	0.0*	0.0*	0.0*
Homicide	3.8*	3.8*	0.0*	10.0*	11.9*
Total deaths, all causes	17,244.2	21,202.8	17,343.0	13,503.8	10,764.6

* Rate based on fewer than 20 events in the numerator may involve serious random error and should be used very cautiously in making comparisons or assessing trends.

APPENDIX V

**CAUSE-SPECIFIC NUMBERS AND PERCENTAGES OF DECEDENTS
DYING IN NONINSTITUTIONAL SETTINGS BY RACE AND SEX**

NORTH CAROLINA 1983-87

NUMBER OF DECEDENTS 65 AND OLDER DYING IN NONINSTITUTIONAL
SETTINGS BY RACE-SEX AND CAUSE OF DEATH
NORTH CAROLINA 1983-87

CAUSE OF DEATH	TOTAL RESIDENTS	WHITE		NONWHITE	
		MALES	FEMALES	MALES	FEMALES
Heart Disease	16,330	6,563	5,888	1,870	2,009
Hypertensive Heart Disease	774	168	277	138	191
Acute Myocardial Infarction	5,824	2,689	1,916	628	591
Other Forms of Ischemic Heart Disease	5,949	2,407	2,143	678	721
Hypertension with or without Renal Disease	219	51	75	40	53
Cerebrovascular Disease	2,118	596	992	215	315
Atherosclerosis	497	155	213	56	73
Cancer	8,328	3,679	3,010	930	709
Esophagus	119	51	28	35	5
Stomach	276	91	90	55	40
Colon, Rectum and Anus	1,123	437	469	74	143
Pancreas	550	214	210	43	83
Trachea, Bronchus, and Lung	2,189	1,317	557	252	63
Female Breast	521		431		90
Cervix Uteri	77		48		29
Ovary and Other Uterine Adnexa	177		156		21
Prostate	841	572		269	
Leukemia	139	52	63	9	15
Septicemia	32	7	14	3	8
Other Infectious and Parasitic Diseases	61	29	17	11	4
Diabetes Mellitus	536	173	196	55	112
Nutritional Deficiencies	29	5	16	3	5
Anemias	47	11	19	8	9
Mental Disorders	208	51	104	13	40
Alcohol-related Conditions	221	99	41	64	17
Chronic Liver Disease and Cirrhosis	90	37	32	12	9
Pneumonia and Influenza	298	105	130	30	33
Chronic Obstructive Pulmonary Disease and Allied Conditions	1,026	599	290	104	33
Ulcer of Stomach and Duodenum	33	15	10	4	4
Nephritis, Nephrotic Syndrome, and Nephrosis	132	33	46	25	28
Other Genitourinary	119	40	41	25	13
Arthritis	63	14	35	4	10
Injury and Poisoning	1,078	586	269	145	78
Motor Vehicle Accidents	32	12	14	5	1
Falls	80	22	45	8	5
Suicide	489	363	91	31	4
Homicide	100	35	31	21	13
Total deaths, all causes	32,818	13,389	11,998	3,736	3,695

**PERCENTAGE DISTRIBUTIONS OF DECEDENTS AGE 65 AND OLDER DYING
IN NONINSTITUTIONAL SETTINGS BY LEADING CAUSES FOR RACE-SEX GROUPS
NORTH CAROLINA 1983-87**

CAUSE OF DEATH	TOTAL RESIDENTS	WHITE		NONWHITE	
		MALES	FEMALES	MALES	FEMALES
Heart Disease	49.8	49.0	49.1	50.1	54.4
Hypertensive Heart Disease	2.4	1.3	2.3	3.7	5.2
Acute Myocardial Infarction	17.7	20.1	16.0	16.8	16.0
Other Forms of Ischemic Heart Disease	18.1	18.0	17.9	18.1	19.5
Hypertension with or without Renal Disease	0.7	0.4	0.6	1.1	1.4
Cerebrovascular Disease	6.5	4.5	8.3	5.8	8.5
Atherosclerosis	1.5	1.2	1.8	1.5	2.0
Cancer	25.4	27.5	25.1	24.9	19.2
Esophagus	0.4	0.4	0.2	0.9	0.1
Stomach	0.8	0.7	0.8	1.5	1.1
Colon, Rectum and Anus	3.4	3.3	3.9	2.0	3.9
Pancreas	1.7	1.6	1.8	1.2	2.2
Trachea, Bronchus, and Lung	6.7	9.8	4.6	6.7	1.7
Female Breast	1.6		3.6		2.4
Cervix Uteri	0.2		0.4		0.8
Ovary and Other Uterine Adnexa	0.5		1.3		0.6
Prostate	2.6	4.3		7.2	
Leukemia	0.4	0.4	0.5	0.2	0.4
Septicemia	0.1	0.1	0.1	0.1	0.2
Other Infectious and Parasitic Diseases	0.2	0.2	0.1	0.3	0.1
Diabetes Mellitus	1.6	1.3	1.6	1.5	3.0
Nutritional Deficiencies	0.1	0.0	0.1	0.1	0.1
Anemias	0.1	0.1	0.2	0.2	0.2
Mental Disorders	0.6	0.4	0.9	0.3	1.1
Alcohol-related Conditions	0.7	0.7	0.3	1.7	0.5
Chronic Liver Disease and Cirrhosis	0.3	0.3	0.3	0.3	0.2
Pneumonia and Influenza	0.9	0.8	1.1	0.8	0.9
Chronic Obstructive Pulmonary Disease and Allied Conditions	3.1	4.5	2.4	2.8	0.9
Ulcer of Stomach and Duodenum	0.1	0.1	0.1	0.1	0.1
Nephritis, Nephrotic Syndrome, and Nephrosis	0.4	0.2	0.4	0.7	0.8
Other Genitourinary	0.4	0.3	0.3	0.7	0.4
Arthritis	0.2	0.1	0.3	0.1	0.3
Injury and Poisoning	3.3	4.4	2.2	3.9	2.1
Motor Vehicle Accidents	0.1	0.1	0.1	0.1	0.0
Falls	0.2	0.2	0.4	0.2	0.1
Suicide	1.5	2.7	0.8	0.8	0.1
Homicide	0.3	0.3	0.3	0.6	0.4
Total deaths, all causes	100.0	100.0	100.0	100.0	100.0

PERCENTAGES OF DECEDENTS AGE 65 AND OLDER DYING
IN NONINSTITUTIONAL SETTINGS
NORTH CAROLINA 1983-87

CAUSE OF DEATH	TOTAL RESIDENTS	WHITE		NONWHITE	
		MALES	FEMALES	MALES	FEMALES
Heart Disease	22.4	23.4	19.2	28.3	26.5
Hypertensive Heart Disease	32.3	33.7	28.0	38.0	35.2
Acute Myocardial Infarction	20.5	21.6	17.0	28.0	24.1
Other Forms of Ischemic Heart Disease	28.0	28.7	23.9	36.8	35.7
Hypertension with or without Renal Disease	22.6	21.0	24.0	24.8	21.0
Cerebrovascular Disease	11.1	11.0	10.7	11.9	12.2
Atherosclerosis	19.7	20.6	16.8	25.7	25.3
Cancer	24.3	25.3	24.8	20.6	23.0
Esophagus	21.6	21.7	24.6	21.2	13.5
Stomach	27.5	26.8	30.6	23.5	29.9
Colon, Rectum and Anus	26.8	29.1	26.8	20.1	25.4
Pancreas	27.3	29.2	27.2	18.5	29.7
Trachea, Bronchus, and Lung	24.9	24.6	29.3	19.8	25.1
Female Breast	22.6		22.9		21.4
Cervix Uteri	24.8		25.1		24.4
Ovary and Other Uterine Adnexa	22.4		23.8		15.6
Prostate	26.8	29.3		22.6	
Leukemia	11.7	10.8	12.4	9.2	14.7
Septicemia	1.6	1.2	1.8	1.1	2.3
Other Infectious and Parasitic Diseases	9.9	13.7	7.8	10.4	4.7
Diabetes Mellitus	17.3	21.4	15.3	16.8	16.5
Nutritional Deficiencies	10.5	6.8	13.1	7.9	11.9
Anemias	14.9	13.1	12.8	21.1	20.0
Mental Disorders	11.4	10.1	10.4	10.5	19.6
Alcohol-related Conditions	18.5	17.9	11.6	33.9	17.7
Chronic Liver Disease and Cirrhosis	9.7	8.7	9.5	13.8	11.1
Pneumonia and Influenza	4.4	3.9	4.5	5.0	6.2
Chronic Obstructive Pulmonary Disease and Allied Conditions	16.3	16.2	15.5	18.4	21.9
Ulcer of Stomach and Duodenum	5.4	6.8	3.4	7.4	8.0
Nephritis, Nephrotic Syndrome, and Nephrosis	6.3	5.2	6.4	7.7	6.8
Other Genitourinary	5.7	6.8	4.3	9.4	4.8
Arthritis	17.4	15.6	16.4	23.5	23.8
Injury and Poisoning	23.5	28.2	17.2	24.9	20.9
Motor Vehicle Accidents	3.7	3.0	4.7	4.1	1.8
Falls	8.0	6.2	8.6	11.0	9.8
Suicide	66.7	66.2	72.2	62.0	44.4
Homicide	54.3	53.8	63.3	43.8	59.1
Total deaths, all causes	18.7	19.9	16.7	20.6	19.9

APPENDIX VI

CAUSE-SPECIFIC NUMBERS AND PERCENTAGES OF DECEDENTS
DYING IN NURSING AND REST HOMES BY RACE AND SEX

NORTH CAROLINA 1983-87

NUMBER OF DECEDENTS 65 AND OLDER DYING IN
NURSING AND REST HOMES BY RACE-SEX AND CAUSE OF DEATH
NORTH CAROLINA 1983-87

CAUSE OF DEATH	TOTAL RESIDENTS	WHITE		NONWHITE	
		MALES	FEMALES	MALES	FEMALES
Heart Disease	10,306	2,477	6,400	527	902
Hypertensive Heart Disease	370	64	232	27	47
Acute Myocardial Infarction	2,269	633	1,298	132	206
Other Forms of Ischemic Heart Disease	3,532	876	2,254	130	272
Hypertension with or without Renal Disease	162	30	79	16	37
Cerebrovascular Disease	4,977	1,055	3,109	258	555
Atherosclerosis	901	214	566	40	81
Cancer	3,631	1,145	1,937	288	261
Esophagus	45	10	17	13	5
Stomach	86	23	46	9	8
Colon, Rectum and Anus	529	115	325	28	61
Pancreas	168	41	110	6	11
Trachea, Bronchus, and Lung	692	357	249	68	18
Female Breast	382		333		49
Cervix Uteri	33		27		6
Ovary and Other Uterine Adnexa	73		66		7
Prostate	365	225		110	
Leukemia	86	23	54	1	8
Septicemia	213	48	123	15	27
Other Infectious and Parasitic Diseases	48	9	30	4	5
Diabetes Mellitus	525	97	293	31	104
Nutritional Deficiencies	63	18	31	4	10
Anemias	48	6	33	4	5
Mental Disorders	847	179	571	33	64
Alcohol-related Conditions	73	24	40	4	5
Chronic Liver Disease and Cirrhosis	68	20	40	3	5
Pneumonia and Influenza	1,384	413	847	51	73
Chronic Obstructive Pulmonary Disease and Allied Conditions	660	322	291	38	9
Ulcer of Stomach and Duodenum	41	10	27	1	3
Nephritis, Nephrotic Syndrome, and Nephrosis	257	60	114	31	52
Other Genitourinary	526	138	314	29	45
Arthritis	60	7	44	3	6
Injury and Poisoning	273	77	153	21	22
Motor Vehicle Accidents	4	2	2	0	0
Falls	102	23	70	4	5
Suicide	4	3	0	1	0
Homicide	2	1	1	0	0
Total deaths, all causes	27,129	6,933	16,280	1,499	2,417

PERCENTAGE DISTRIBUTIONS OF DECEDENTS AGE 65 AND OLDER DYING
IN NONINSTITUTIONAL SETTINGS BY LEADING CAUSES FOR RACE-SEX GROUPS
NORTH CAROLINA 1983-87

CAUSE OF DEATH	TOTAL RESIDENTS	WHITE		NONWHITE	
		MALES	FEMALES	MALES	FEMALES
Heart Disease	38.0	35.7	39.3	35.2	37.3
Hypertensive Heart Disease	1.4	0.9	1.4	1.8	1.9
Acute Myocardial Infarction	8.4	9.1	8.0	8.8	8.5
Other Forms of Ischemic Heart Disease	13.0	12.6	13.8	8.7	11.3
Hypertension with or without Renal Disease	0.6	0.4	0.5	1.1	1.5
Cerebrovascular Disease	18.3	15.2	19.1	17.2	23.0
Atherosclerosis	3.3	3.1	3.5	2.7	3.4
Cancer	13.4	16.5	11.9	19.2	10.8
Esophagus	0.2	0.1	0.1	0.9	0.2
Stomach	0.3	0.3	0.3	0.6	0.3
Colon, Rectum and Anus	1.9	1.7	2.0	1.9	2.5
Pancreas	0.6	0.6	0.7	0.4	0.5
Trachea, Bronchus, and Lung	2.6	5.1	1.5	4.5	0.7
Female Breast	1.4		2.0		2.0
Cervix Uteri	0.1		0.2		0.2
Ovary and Other Uterine Adnexa	0.3		0.4		0.3
Prostate	1.3	3.7		7.3	
Leukemia	0.3	0.3	0.3	0.1	0.3
Septicemia	0.8	0.7	0.8	1.0	1.1
Other Infectious and Parasitic Diseases	0.2	0.1	0.2	0.3	0.2
Diabetes Mellitus	1.9	1.4	1.8	2.1	4.3
Nutritional Deficiencies	0.2	0.3	0.2	0.3	0.4
Anemias	0.2	0.1	0.2	0.3	0.2
Mental Disorders	3.1	2.6	3.5	2.2	2.6
Alcohol-related Conditions	0.3	0.3	0.2	0.3	0.2
Chronic Liver Disease and Cirrhosis	0.3	0.3	0.2	0.2	0.2
Pneumonia and Influenza	5.1	6.0	5.2	3.4	3.0
Chronic Obstructive Pulmonary Disease and Allied Conditions	2.4	4.6	1.8	2.5	0.4
Ulcer of Stomach and Duodenum	0.2	0.1	0.2	0.1	0.1
Nephritis, Nephrotic Syndrome, and Nephrosis	0.9	0.9	0.7	2.1	2.2
Other Genitourinary	1.9	2.0	1.9	1.9	1.9
Arthritis	0.2	0.1	0.3	0.2	0.2
Injury and Poisoning	1.0	1.1	0.9	1.4	0.9
Motor Vehicle Accidents	0.0	0.0	0.0	0.0	0.0
Falls	0.4	0.3	0.4	0.3	0.2
Suicide	0.0	0.0	0.0	0.1	0.0
Homicide	0.0	0.0	0.0	0.0	0.0
Total deaths, all causes	100.0	100.0	100.0	100.0	100.0

**PERCENTAGES OF DECEASENTS 65 AND OLDER DYING
IN NURSING AND REST HOMES BY RACE-SEX AND CAUSE OF DEATH
NORTH CAROLINA 1983-87**

CAUSE OF DEATH	TOTAL RESIDENTS	WHITE		NONWHITE	
		MALES	FEMALES	MALES	FEMALES
Heart Disease	14.1	8.8	20.9	8.0	11.9
Hypertensive Heart Disease	15.4	12.8	23.4	7.4	8.7
Acute Myocardial Infarction	8.0	5.1	11.5	5.9	8.4
Other Forms of Ischemic Heart Disease	16.6	10.4	25.1	7.1	13.5
Hypertension with or without Renal Disease	16.7	12.3	25.2	9.9	14.7
Cerebrovascular Disease	26.1	19.5	33.4	14.3	21.5
Atherosclerosis	35.6	28.5	44.6	18.3	28.0
Cancer	10.6	7.9	16.0	6.4	8.5
Esophagus	8.2	4.3	14.9	7.9	13.5
Stomach	8.6	6.8	15.6	3.8	6.0
Colon, Rectum and Anus	12.6	7.7	18.6	7.6	10.9
Pancreas	8.3	5.6	14.3	2.6	3.9
Trachea, Bronchus, and Lung	7.9	6.7	13.1	5.3	7.2
Female Breast	16.6		17.7		11.6
Cervix Uteri	10.6		14.1		5.0
Ovary and Other Uterine Adnexa	9.2		10.1		5.2
Prostate	11.6	13.1		9.3	
Leukemia	7.2	4.8	10.7	1.0	7.8
Septicemia	10.7	8.0	15.7	5.6	7.7
Other Infectious and Parasitic Diseases	7.8	4.3	13.8	3.8	5.9
Diabetes Mellitus	17.0	12.0	22.9	9.5	15.3
Nutritional Deficiencies	22.9	24.7	25.4	10.5	23.8
Anemias	15.2	7.1	22.3	10.5	11.1
Mental Disorders	46.3	35.4	57.3	26.6	31.4
Alcohol-related Conditions	6.1	4.3	11.3	2.1	5.2
Chronic Liver Disease and Cirrhosis	7.3	4.7	11.9	3.4	6.2
Pneumonia and Influenza	20.5	15.4	29.0	8.5	13.7
Chronic Obstructive Pulmonary Disease and Allied Conditions	10.5	8.7	15.6	6.7	6.0
Ulcer of Stomach and Duodenum	6.7	4.6	9.3	1.9	6.0
Nephritis, Nephrotic Syndrome, and Nephrosis	12.3	9.5	15.8	9.6	12.7
Other Genitourinary	25.3	23.3	33.1	10.9	16.6
Arthritis	16.5	7.8	20.6	17.6	14.3
Injury and Poisoning	5.9	3.7	9.8	3.6	5.9
Motor Vehicle Accidents	0.5	0.5	0.7	0.0	0.0
Falls	10.2	6.5	13.4	5.5	9.8
Suicide	0.5	0.5	0.0	2.0	0.0
Homicide	1.1	1.5	2.0	0.0	0.0
Total deaths, all causes	15.4	10.3	22.6	8.3	13.0

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